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THE MOST INCREDIBLE TRIP WE'VE DONE THIS YEAR!

I dunno about you lot, but for me nothing comes close to the dream of living out of my 4WD permanently. Day in, day out – waking up, packing up camp, driving incredible tracks and finding another picture-perfect campsite as the sun starts to drop behind the hills. The only time you'd even go back into town would be for more fuel or a bit of grub to restock the tuckerbox. Being self-sufficient I reckon seems like the ultimate goal! It definitely stems from the days of watching deadset legends like Malcolm Douglas on the telly, living off the land out of the back of his old Troopie.

This issue we've pulled off the biggest trip we've done in 2015. Starting with 7 insane self-sufficient, go-anywhere 4WDs, we headed north for a week of no-holds-barred off-road action. We're talking massive rock climbs. Bog holes that even a Unimog needed to winch out of (did I mention there was a Mog on the trip?). Epic recoveries. Bush mechanic fixes. Cooked motors. And best of all – jaw-dropping campsites at the end of each day. Call it the 4WD Action version of living out of the back of your 4WD!

It's one helluva ride, and you're holding the ticket to ride along with us in your hands. Enjoy it, because we certainly enjoyed making this one happen!

PS – like the pic? Ironically this happened when the cameras weren't rolling – I'd 'borrowed' Zero Dollar Zook for a quick run up Coffs with some old mates when a soft brake line let go and I couldn't hold it on a hill. With the low-compression engine turning over backwards in gear and a snapped handbrake cable, it was either let it roll into a mate's big shorty parked behind, or try and put it into the bank to stop it. I chose to eat dirt. I won't count that as a roll-over, because the boys could have just about pushed me back on my wheels. And the damage? A side mirror. Gotta love that old girl! Cheers!



Brendan
Brendan Seymour
Editor

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Switch on and charge up! We've got the 12V solutions you're looking for. Thanks to Bainbridge Technologies, this issue the winner of the 'Postie's Pick' prize will score themselves a brand-new Baintech PowerTop. It's a dynamic plug-and-play system that gives you the power of a 12V 100Ah gel battery without the installation hassles.

How do you get your greasy hands on this great prize? Simple – send us a letter that shows you having the time of your life on the tracks, what you've done to your 4WD, or something else exciting you've seen while out 4WDing.

Email your letters and photos to 4wd@expresspublications.com.au with 'Readers Write' in the subject line, or post them to Readers Write, Australian 4WD Action, 37 Carnarvon St, Silverwater NSW 2128. Remember to include your full name and the suburb or town you live in.



LETTER OF THE MONTH WINNER

WE'RE ON THIN ICE

Let me paint you a picture...

It's a beautiful Sunday in September; I went to work in the morning, finished at 12 and thought what a good opportunity to take the Patrol down some local tracks.

It's been way too long since I've been down the local tracks so I was looking forward to it, spirits were high.

I get to the turn off in Anglesea and tackle my first obstacle, an insanely steep and rutted clay hill, with a bit off a wheel lift at the bottom the rest was fairly easy as there was plenty of traction thanks to the sun beating down on the clay.

I get to the top, track goes on to the left, black top 20m to the right, so I turn left, that's when I came across it. An absolute truck load of rubbish, my mood sank and I found myself half way between upset and crazy angry. This is half the reason our tracks are getting taken away from us.

The thing that really gets me and this is the icing on the cake. The Anglesea tip is 400m up the road!

I hope my story helps let people know of the issue we are facing as 4WDers.

Cheers
Isaac Burrridge

*G'day Isaac,
Mate, it's a shame to hear what you discovered, and unfortunately your experience certainly isn't a one-off.*

We know by and large 4WDers do the right thing and often go above and beyond to make an effort to keep our favourite tracks and campsites open, but some people think they don't have to follow the rules and show basic respect for our environment.

The best thing we can do as 4WDers is to report tossers to the local authorities when we catch them in action. Those who do the wrong thing and threaten to ruin it for the rest of us don't deserve to be protected – by naming and shaming, maybe then they'll start to get the message.

On a positive note, it sounds like you've got some super fun local tracks in your area to give that Patrol a good stretch whenever you want!

Shauno



THE SAND ISLAND OF SURPRISES

G'day Guys,

Thought I'd share these photos taken of me crossing Awinya Creek on a recent trip to Fraser Island. Fair to say the recent rain combined with a high tide ensured the crossing was considerably deeper than usual (there is actually a snorkel under all that water).

Being from North East Victoria, the scenery on Fraser was such an amazing contrast to the mountains round home. So much variety in such a small geographical area including of course the Beaches, Rainforest, Freshwater Lakes and Creeks. Add to this the abundance of wildlife, we saw plenty of Birds, Whales, Turtles, Rays, Dolphins, Fish, Lizards and of course a few Dingoes!

Something that impressed me nearly as much as the scenery was how good the camping facilities are on the island, plenty of decent camp sites with proper toilets and hot showers (fenced to keep the dingos out too), some with "camp kitchens" and lots of places to dispose of rubbish all over the island.

We managed to see most of what Fraser had to offer over the seven days we spent there, but left just enough to have an excuse to go back one day, something I am looking forward to already.

I might be biased but of all the places I have been I still think the Vic High Country is number one, but I think this sand island has cemented second in my book.

Thanks guys,
Daniel Flack

Something tells us you don't do things by halves, do you Daniel? That crossing is seriously deep in parts; deeper than many of the creeks you're probably used to down in the High Country, I bet. And you're spot on about Fraser. The thing we like most is that Fraser is one of Australia's best-value beach



destinations for those with a 4WD. Yeah, you've got to fork out for camping fees and the return ferry ride, but the kids get a kick out of driving onto a boat and really, you're just paying for what you use. Where else can you 4WD, fish and camp right amongst it all on the coast (or in the rainforest) for as little as \$5.95 pp/night in Queensland? If you head over prepared, it can be one of the most affordable beach camping destinations (with so much to see and do as you say) you'll find anywhere in the country.

Steve

CUTTING YOUR TEETH

G'day. My name is Josh; I live in Coffs Harbour and would love to own a 4WD (as many of my friends do). I know Coffs has tons of 4WD tracks and my mates and I want to tackle them all. I have been looking around for a 4WD but I am not really sure what to look for. All I do know is I don't want anything too big or too thirsty as I have a pretty limited budget, about 5,000 or so. I don't think I will be spending much time on the road so a good reliable 4WD is what I am after

I would appreciate it if you could send me on the right track when it comes to buying a 4WD

Cheers
Joshua Ward

G'day Josh,

We're stoked to hear you're about to join the 4WD fraternity. You won't meet a better bunch of blokes and blokettes than those you do on the tracks and around camp, all brought together through a common love of 4WDing.

The way I see your options, there are three 4WDs you should be looking out for. That's not to say there aren't a heap of options out there (because there are), but if it was me, I'd be chasing one of these.

First up is a petrol GQ Patrol. Yes they're big and thirsty, but they're also as close to indestructible as you'll get for a 4WD around 3-4 grand. If you're not planning on doing a lot of long-range touring out of your first 4WD and just want to hit the local tracks in it, a big GQ won't cost you much to get started with, and should be able to stand up to a lot of the punishment that the wild Coffs tracks dish out.

Next up is a LN106 HiLux. You'll be spending all of your \$5,000 for one of these, and while they're not going to get you anywhere in a hurry (or with any comfort), they're a very capable 4WD, with

a reliable history, and are a lot smaller than a GQ. Not sure if you're after a ute or wagon, but if you're leaning towards a ute, this'd be my pick.

And finally, how can we go past a little Suzuki Sierra? Cheap as chips to run and maintain, and you'll be able to pick one up for just 2-3 grand, leaving you plenty of change. They're not for everyone, and if you need towing ability, boot space or leg room, they're not for you. But for a fun, affordable 4WD to cut your teeth on, you can't ignore them. Shauno and I learnt to drive off-road with Zooks and they're the perfect stepping stone to a bigger 4WD, once you decide what your driving style and touring preference dictates.

Let us know how you go, and hopefully we'll see you on the Coffs tracks soon - they're just too bloody good for us to stay away from for long!

Cheers,
Brenno



Got a tricky tech question that you can't get answered? Different mechanics or mates telling you different things? Maybe you're not sure if you're getting the sales answer or a real one. Just email us a detailed description of your problem to editorial@4wdaction.com.au and we'll enlist our panel of the top industry experts to answer your questions. It's advice you can trust, every single time, and it's a service we're offering free to you as a reader of 4WD Action.

SETTING UP THE LUX

Hi guys,

I'm very new to 4WDing and would like some info on suspension lifts. I have a current model HiLux dual cab SR5 and would like to lift it two inches or maybe two and a half. I have an ARB deluxe bar and winch with dual batteries, an ARB canopy and rack and will be putting a roller drawer system in the back. I also tow a camper trailer that's around the 1.2T mark loaded.

I've been told by some people you need diff drops and different control arms to do this and the vehicle won't ride as good on long road trips. I'm just confused so I thought you guys doing what you do best would be able to give a newbie some good setup advice and what suspension is best.

Kind regards, Matt

G'day Matt,

When fitting a two inch lift kit a diff drop shouldn't be necessary. At 2.5in this would be advised as CV angles will require correction. In most states the 2.5in lift kits are not legal or covered by insurance companies.

With the accessories & weights that you have listed, a constant load suspension kit would be the one to go for. This should contain the following:

- Front coil springs (to suit bar & winch)
- Front replacement struts (valved to suit coils)
- Rear leaf springs (to suit constant load)
- Greasable Shackles
- Chassis & shackle bushes
- U-bolts

As always, there are many different suspension packages available, so it would be wise to discuss your requirements with a reputable specialist so that you receive the best set-up for your driving needs.

Regards

Brad Green

Suspension Stuff



FORD RANGER AIRFLOW ISSUES

G'day guys,

I have a 2007 PJ Ranger 3.0L TDCi auto. The vehicle is fitted with an ARB bullbar and a Warn winch.

The problem I have is that the vehicle struggles with uphill climbs even very moderate inclines. I have spoken to my local Ford dealer and they say the bullbar/winch combination is restricting airflow through the intercooler causing the intake temperatures to rise which cause the ECU to go into safe mode. On closer inspection I have noted the intercooler is below the level of the winch and I don't see this as being the cause of the problem, your thoughts?

Cheers
Phillip Prey

G'day Phillip,

The question you are asking is hard to answer. But these are the things you need to check. You said Ford told you that the Winch and Bull bar combination is obstructing consistent airflow to the intercooler. So before I totally disagree with Ford, do you know if either the exhaust gas temperatures (EGT) rise up a long way or does the actual engine temperature rise at all when going up the inclines? If the answer is NO, then Ford's excuse for no power is incorrect.

Maybe for some piece of mind, install an EGT gauge on it and see what the temp gets up to while driving up hills.

If the answer is YES then surely there is some type of warning lights coming up on the dash if the vehicle is going into limp mode.

Did you have the lack of power problems before you fitted the winch and bull bar? If the answer is NO, then maybe have your Auto electrician have a look at the way everything is wired up just to make sure nothing is inferring with the computer once the vehicle is under extra load and boost.

Hopefully this gives you some ideas where to look next.

Cheers

Justin Malaponte

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REAL 4WD

GU PATROL ON AIRBAGS



SMOOTH MOVE



WORDS BY BRENDAN SEYMOUR PHOTOGRAPHY BY WES WHITWORTH →

This might just be the ultimate touring Patrol, and it all comes down to a very clever, out-of-the-norm suspension setup





SUSPENSION

It's funny how the effectiveness of any modification you can make to a 4WD is open to differing opinions. To the fella who's got a new 200 Series LandCruiser with its incredibly smart traction control system, a pair of lockers is nowhere near as desirable as it is to the bloke who punts an old Triton up and down hills all weekend.


For those of us who grew up on a diet of leaf springs, jumping into a 4WD with coil springs each end is like bolting a transfer case and big muddies onto your couch at home. The ride's an unbelievable upgrade in terms of comfort, and there's no doubting that coil springs work well in almost all situations off-road.

But what if you weren't happy with a 4WD that worked 'well'? Where do you go if you've already got a coil-sprung truck like this neat-as-a-pin GU from the Western State?

Geordie and Rosemarie Clapin hail from the Perth suburb of

Gwelup, and we met them last issue while we were on our way up into Cape York, 'researching' (that's what we told the bean-counters) that issue's major feature. Their late-model GU looked incredibly slick at first glance, but it wasn't until we got talking to Geordie one arvo down at an east-coast beach campsite that we realised exactly what made it stand out from the crowd – airbags.

Nope, not the kind that you bung inside your coil-springs to stop the rear from sagging under load – we're talking about full coil-spring replacement airbags, the same setup you find on trucks and buses. Now, this isn't the newest technology around – it's not what you'd call 'ground-breaking' these days – but the opportunity to get out and go 4WDing with Geordie and Rosemarie for a couple of days to see how the airbags held up in a real-world situation was definitely one not to pass up.

Let's take a closer look! 

- Full replacement airbag kit
- Koni shocks
- Superior Engineering Superflex arms and swaybars
- In-cab airbag controller
- LandCruiser front bumpstops and shocks

"It's been a work in progress," says Geordie of his full-airbag suspension system. "I started out with coil springs and ARB shocks, and then after a few years I got the idea that it would be nice to have full airbag suspension, so I could adjust levels and change ride height. At the moment I've got an Airbag Man Firestone airbag kit all round, and Koni 90 Raid shocks."

"The airbags give me a ride height of about two to three inches, which is quite comfortable on the highway, and I can lift it to around about four inches when I'm offroad. The handling of the airbags is beautiful – when it's at the on-road ride height it's spot-on. It now goes over corrugations far better than it ever used to before, so it's quite an improvement in the suspension. The great thing about the airbag suspension, is when we get on an un-level surface and we want to camp, we can lift the front up, drop the back down, change from one side to the other to get the bed area level."

"Initially a lot of people said 'watch out, you'll get punctures in them'. I had one leak when I went over a speed hump at Melbourne airport and had to have it all the way down to get into the carpark. I managed to pinch an airbag, but other than that since I've changed bump stops, reliability has been very good on this trip, with no leaks or other issues with the airbags. The airbags have internal bump stops but they're quite a harsh hit. I've got LandCruiser bump stops at the front and longer bump stops at the rear."

"The other suspension components I've got are Superior Engineering hybrid Superflex front control arms, and also the Superflex swaybars at the front. This all gives it a much smoother flex. At the rear, I've got strengthened lower control arms, and adjustable upper control arms to keep the diff at the right angle. I'm very happy – the whole thing is handling far better than it ever did before. I did put a stiffer swaybar on the rear and that stops the airbags rolling into corners."

"The adjustment system is from America, and it's called Air Ride. It's got a little hand controller so I can individually pull the front left, right, up or down, and the rear left, right, up or down. It's quite handy for pulling into the driveway at home – I can drop the airbags down and pull the camper in under the eaves at home, then come out and lift it up again at the right height."

It's suspension, but not as we know it. Full airbag setup replaces coils at all four corners



Hand-controller for airbags – we couldn't be trusted with this, we'd be low-riding up the highway



**SHOT
ON THE
LEGENDARY
TELE
TRACK!**



***TWO OR FOUR INCHES
OF LIFT AT THE
PUSH OF A BUTTON!***



3inch stainless steel exhaust sounds tough behind the little ZD30



It's only a little motor, but the upgraded ZD30 pushes the GU along beautifully



Bigger intercooler lets Geordie run higher boost without cooking the motor



GO-HARDER GEAR

- 20psi boost upgrade with bigger intercooler
- Twin performance chips
- 285/75R16 Mickey Thompson ATZ P3s on ROH alloys
- 220w solar panels and triple battery setup

"The standard motor is still in there, the three litre ZD30," Geordie says. "I've got a larger intercooler on it, which was one from A.R.E. It's their larger air scoop too, which seems to make a big difference with the amount of airflow through the bonnet and into the intercooler. I'm running quite a bit lower exhaust gas temperatures, and better cooling with that scoop and 'cooler on."

"I've turned up the turbo boost. I'm running about 20psi and use a little valve called a Dawse valve to keep the boost down to 20psi so it won't over-boost. It's got a three inch stainless steel exhaust system on it, and I've also changed the Mass Airflow Sensor housing and inlet and outlet of the snorkel. It's now got a four inch inlet to the airbox, and a larger MAF housing. It gives it a lot better legs, breathes better and doesn't struggle up hills anymore. For a little three-litre motor, she pulls pretty well! It's got a Rapid chip, and then I've also got a secondary chip that just controls the Mass Airflow Sensor voltage so I won't cause any computer over-boost or limp mode problems that seem to be common with these engines."

"Fuel economy is not too bad - we're loaded up very heavily for this trip. There's a lot of stuff on the roof, so I've been getting around about 13-14L/100km. It's a little bit higher when we're off-road or making it work hard at speed on the bitumen. Fuel economy is reasonable. I've got 215L long-range tanks in it, 140L the back and 80L the front. With the long-range fuel tanks I've got a range of about 1500km."

"Wheels and tyres I've got on it now are 16x8in ROH alloys, and I've got Mickey Thompson P3s - the 285/7516. I've tried some 35s on it but it made the little motor struggle a little bit too much. It's much nicer for travelling just having the 33inch tyres - it seems to be a very good compromise so far."

"I've got two Optima batteries under the bonnet. I have the same batteries, so they can link for winching, and I can also use both to start the vehicle. I have a third larger deep cycle battery in the back with the fridge. The fridge runs mostly from the two solar panels that I have up on the roof of the camper - two 110w thin solar panels glued onto the rooftop tent. They charge the fridge battery and I can also switch them over so if I have a flat main battery I've got a system where I can switch the charge to the main battery. If I do get stuck and flatten the battery, I can switch over and sit around in the sun for the day and she's charged and ready to go again. An auto is very hard to push-start!"

GO-FURTHER GEAR

- ARB barwork
- Kaymar rear bar
- Custom storage setup including second-row seat removal
- Rooftop tent

"I've got headlights that have been converted to HID projector lights, and they seem to give me a good, bright light and a nice cut-off so they don't blind other drivers. They're not light everywhere, there's a nice even light out on the road. For spotlights, I've got some lightbars up on the roof that are a very wide angle, and they just sit out to the side so they light up the side but don't light my bonnet up. I've also got a long-range high-speed spot LED bar in the front as a replacement for my spotlights. Previously I had some 55w HID spotlights, which were light 2 little search beams in the distance. This thing puts out as least as much or more light, and it's nice even light across the road at 500m away, so I'm quite impressed with the lighting."

"I've got an ARB deluxe winch bar on the front with scrubrails, which have come in fairly handy for scraping against a few things on this trip. I've got their standard steel side steps, which have been adequate. At the back I've got a Kaymar dual wheel carrier which gives me that option of bringing two spares along, or I can leave one off when I'm back in the city."

"On the rooftop, I've got a custom-made roofrack to be as flat and low to the roof as possible, so when I've got the rooftop camper on, I can still get in at home and get into carparks and things in the city. The rooftop camper is one from James Baroud and it's nice because it's got gas struts. I undo the latches and it puts itself up. It's quite a bonus when you've been travelling for a long day and can't be bothered setting up the tent or the camper."

"The rear storage that I've got setup at the moment – I've removed the back seats and I'm just using some big plastic crates for storage of spare parts, recovery gear, food, clothes, camera gear – everything just goes in the crates. That seems to keep everything all in one place when we're going through some rough tracks, and keeps the dust out. In the back, I've got a 50L vertical water tank where the back seat would have been, and just a tap at the back for that. At the very back I've got two low drawers that the tools and other equipment go in, then a fridge slide sits on top of that. I can pull the fridge out as one drawer, or I can pull the other drawer out as a table if I need. I've also got a little table that folds down from the back door. It's the cheapest and best modification that I've done – very handy, you just flick two bungy cords and fold down the table at the back with the stove on it for a quick, easy stop without setting up a table!"



How's this for a neat setup!



Basic drop-down table Geordie rates as one of his favourite mods

↓ RUNDOWN

ENGINE: ZD30 3.0L common-rail turbo-diesel

GEARBOX:

4WD ACTIVATION: Part-time, auto hubs

SUSPENSION: Airbag suspension front and rear, two to four inches of adjustable lift with Koni shock absorbers

WHEELS AND TYRES: 285/75R16 Mickey Thompson ATZ P3s on ROH 16x8in alloys

OTHER GOOD GEAR: ARB touring barwork – triple battery setup – 210w solar panels – running 20psi – inter-cooler upgrade – stainless steel exhaust



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RIDE-QUALITY**



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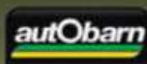
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10 INSANE TRUCKS

2 STATES

**ONE UNBELIEVABLE
WEEK OF ADVENTURE!**

ULTIMATE OFF-ROAD ADVENTURE 2015!

WORDS BY STEVE COLLINS, PHOTOGRAPHY BY DAVE WOLTSCHENKO



Big trucks, tough tracks, best mates and the bush - this is our most epic east coast adventure yet!



Every one of us dreams of living out of our 4WDs, driving the most incredible destinations day in day out, and ending up at breathtaking campsites every single day.

As 4WDers, it's our dream to be out in the bush permanently, only hitting bitumen when it's really needed. Our 'Ultimate Off-road Adventure' takes that idea, and gives it a kick of elephant steroids to produce the

most insane week of 4WDing that we'll do all year.

This time round we took ten tough touring 4WDs to six epic locations across two states. Mud, rocks, ruts, clay, steep climbs, sand and stunning campsites - this adventure had it all.

Now, this is where you come in. From here on in we want YOU to be a part of it, too. Go and grab a stubby, kick back and relax. This is one adventure you're not gonna' want to miss!



THE MOST INSANE WEEK WE'VE HAD ALL YEAR!

When it boils down to it, the Ultimate Off-road Adventure is all about inspiring you folks at home to jump in your trucks and get out there. Don't have one? That's fine! This trip is designed to show you how different trucks perform when faced with varying challenges off-road, so you can make an educated decision when it's

time to buy one of your own.

This is why we also have every day 4WDers, just like you, come along for the ride. Who better than the blokes that've built the exact 4WD you've got (or want) in your driveway, to push these vehicles to their limits?

Real 4WDs, real 4WDers; real 4WDing - that is the Ultimate Adventure!



WHERE WE WENT

This year's Ultimate Adventure was about pushing the limits. And as such, we wanted to test not only each vehicle's touring capability, reliability and bush-proofing; but their ability to tackle tough low-range challenges like steep climbs, deep ruts, huge rock steps, mud, water and sand, and everything else in between. And if there's one thing the east coast of Australia is known for, it's that exact combination.

We started the trip in the Kiwarra State Forest, east of Forster on the mid-north coast of NSW. From there we hoofed north to Wauchope, then on to Coffs Harbour, Peppy Beach, and the Glass House Mountains before finally darting across to Teewah Beach.

A major part of this adventure was that each day brought with it a new destination, a new set of challenges and even more tough terrain.



WHAT MAKES THE ULTIMATE ADVENTURE RIG?

Just imagine; sitting in your driveway is a comfy long distance tourer decked out with every camping accessory under the sun. Next to it is the labouring work ute that has a mild lift, muddies and a host of tool boxes on the tray. Behind that is the daily driver; it's got a powerful yet economical common-rail diesel engine and a few mod cons. And parked in the garage is the comp truck; it's sitting on portal axles, 44in Jungle Trekkers and has a fire-breathing V8 peeking out of the bonnet.

Unfortunately for most of us, this simply isn't possible. And even if it was - when would you use them? Which one would you take to the Cape? Or on a trip like this? The comp truck that chews through the fuel and is about as comfortable as a pogo stick in a gravel pit - yeah, good luck with that! Maybe you'd take the comfy tourer. You'd get there alright, but what then? You'd have to turn back at the first real obstacle... because that's fun.

The ultimate all-rounder lies somewhere in the middle, and the trucks we had on this year's Ultimate Adventure are living proof that it's possible to have your off-road cake and eat it too. All of them are as capable tackling sill smashing rock steps as they are sitting on 110km/h down the freeway.



THE LOCALS

Let us introduce you to the first three adventure addicts - Joel, Alex and Cody - our local guides. Blokes that know the tracks we were driving better than anyone. The first one is big Joel White, who you met on last issue's Meet The Team DVD. Joel's our Forster local for this trip. Top bloke. He'd give you the shirt off his back if you needed it. Drives a 4.2L GU coil cab with all the fruit and you'd swear he had a set of plums the size of grape fruit after seeing the sorts of tracks he's shown us this trip. Joel, you might not be a classy bloke, but you're a champion. We won't tell anyone about the cable-tie belt holding your favourite boardshorts up, orright?

Then there's Alex Chalmers' GQ shorty 'TINY' and Cody Granville's insanely capable GU ute. Al and his wife, Amyleigh, do a lot of touring in TINY, so the GQ shorty has been built to ride the line between weekend play toy and tough tourer. Cody's GU on the other hand leans a little more towards weekend play toy. It sports a full custom suspension setup including a 14in Pro Fender coil-over conversion in the rear, which is perfect for the tracks out here.

U.A. RIG # 1



U.A. RIG # 2



U.A. RIG # 3



MEET YOUR 2015 ULTIMATE OFF-ROADERS!



U.A. RIG #4

BIG HORSEPOWER!

STEVE COLLINS

NAVI: JOCK MCDONALD

GU PATROL

I'd only just returned from the Cape when I got the call from Brenno asking if I'd lead this trek up the east coast. The destinations sounded pretty cool, I hadn't driven the GU since its engine upgrade and I had Jock from the office riding shotgun. Heck, I was more than keen at that point - but then he mentioned the calibre of trucks coming along - and oh boy. I was like a kid at Christmas. I couldn't sleep for days!

VEHICLE: Nissan GU Patrol

ENGINE: 4.2L turbo-diesel TD42

TRANSMISSION: 5-speed manual

SUSPENSION: 2in raised Raw 4x4 springs and shocks, heavy-duty arms, braced diffs

BARWORK: Millweld front bar, scrub bars, sliders and dual wheel carrier

LOCKERS: Front and rear Eaton E-Lockers

TYRES: 35x12.5in Cooper ST MAXX All-terrains

WHEELS: Dynamic 15x10in steelies with -44 offset

MATT KINSELA

NAVI: JASON HAILER

TOYOTA HILUX

We meet a lot of 4WDers in our travels, and hands down, Matt would have to be one of the most capable DIYers we've ever met. Big call I know, but get this - Matt not only knows every nut and bolt on his HiLux; he did the entire solid-axle swap, barwork and engine mods himself, at home in the shed and to such a standard an engineer signed it right off. When you see it in action three things are obvious; the suspension works and works well, the crawler gears enable Matt to roll over anything with full control and he's spent more than enough time behind the wheel.

VEHICLE: 2002 Toyota HiLux

ENGINE: 3.0L 1KZ turbo-diesel with 3in custom mandrel bent exhaust

TRANSMISSION: 5-speed manual

SUSPENSION: Solid-axle swapped front end which uses 3in LandCruiser springs and 6in 80 Series Dobinsons shocks. 5in raised leaves in the rear coupled to 6in raised GU Patrol Dobinsons shocks and anti-wrap bar

BARWORK: Custom high-mount front bar, 1.75in tube scrub bars, custom rear tube bar

LOCKERS: ARB Air-lockers front and rear

TYRES: 315/75 R16 BF Goodrich KM2 Mud-terrains

WHEELS: 16x8in -25 Allied Savannah bead locks

OTHER GEAR: Internal 4-point cage in canopy that doubles as a spare wheel mount.



**MOST CAPABLE
CRAWLER**

U.A. RIG #5

MIKE DEERING

NAVI: ADAM SMITH

JEEP JK WRANGLER

There aren't many blokes that live and breathe 4WDing like mates, Mike and Adam. Mike bought his brand new in 2011, and has since transformed it one seriously capable 4WD. He's spent years driving coal trains for the mines down near his home town of Wollongong, leaving him with plenty of time each day to meticulously plan out his entire JK build. Mike defines the age old saying; 'work hard, play harder'.

Mike drew the short straw with this JK, though. At just 20,000km his engine spat a few big end bearings and he had to have the whole thing replaced. Fortunately, it was all sorted under warranty but the failure is something that's marred Mike and the mighty JK ever since.

VEHICLE: 2011 JK Wrangler Rubicon

ENGINE: 3.8L petrol V6

TRANSMISSION: 6-speed manual

SUSPENSION: 4in Evo King Coil Overs with upgraded 300/300lb heavy-duty King Springs up front, and 250/300lb King Springs in the rear

BARWORK: Poison Spyder winch bar, side bars and rear tyre carrier

LOCKERS: Factory Rubicon

TYRES: 37in BF Goodrich KM2 Mud-terrains

WHEELS: 17in Ballistic Scyth Millway

OTHER GEAR: Synergy High Steer Conversion Kit, PSC Power Steering motor, WARN Platinum 12,000lb winch, front axle sleeved and gusseted.



U.A. RIG #6

**MOST ADVENTUROUS
4WD**



DARREN VASSIE

TOYOTA 80 SERIES LANDCRUISER

As the owner/operator at Custom RV Creations & Repairs, Darren takes pride in his workmanship as you can see with this immaculate dual cab chopped 80 Series. Darren's a Queenslander through and through, and as such, spends most of his time camped out on the beaches around Brissy with his wife Sally and three kids; Kayley, Amy and Zach. Darren's totally transformed his \$3,000 budget buy into one of the cleanest family tourers you'll ever see.

VEHICLE: 1993 Toyota 80 Series LandCruiser

ENGINE: 1FZ-FE

TRANSMISSION: Manual

SUSPENSION: 3in raised Dobinsons springs with 500kg constant load springs in the rear, Dobinsons 45mm gas shocks, 3° castor bushes and adjustable Panhard

BARWORK: Custom RV Creations & Repair front winch bar

LOCKERS: Eaton E-Locker up front, LSD rear

TYRES: 315/75/R16 Pro Comp All-terrains

WHEELS: 16x8in Mickey Thompson alloy wheels with -12° offset

OTHER GEAR: Custom dual-cab chop and custom canopy, 4in custom stainless snorkel, 2.5in exhaust, 12,000lb winch, Nava spotties and LED lightbars, 120Ah auxiliary power with full hot water system and caravan pump.

BEST FAMILY TOURER



U.A. RIG # 7

CRAIG 'DOZZA' POTTS

TOYOTA TROOPY

Craig 'Dozza' was this trip's dark horse. Any other Troopy owner would take one look at the tracks we were driving and bow out. And with good reason, too. Troopies are notoriously top heavy and wheel lifts were on the menu. But not Dozza. See, Dozza has a few aces up his sleeve. He's a Forster local so he's used to driving these sorts of tracks, he's swapped in a full set of 80 Series twin-locked diffs front and rear (coils and all) and he's had enough seat time to relearn how it drives with the new setup. As a boiler maker he also knew what it would take to make the truck reliable, too. He did the whole swap himself at home and has since had it all certified by an engineer.

VEHICLE: 1990 LandCruiser Troopy

ENGINE: 4.2L turbo-diesel 1HD-T block, pump and injectors mated to a 1HZ head with a CT26 turbo and 3in exhaust

TRANSMISSION: 5-speed manual

SUSPENSION: 80 Series LandCruiser diffs, mounts and arms, 4in Dobinsons HD coils and Tough Dog adjustable shocks front and rear

BARWORK: ARB Commercial winch bar, custom rear tube bar

LOCKERS: ARB Air-lockers front and rear

TYRES: 315/75 R16 Mickey Thompson Baja Claws

WHEELS: 16x8in Sunraisers

OTHER GEAR: Fully engineered, Outback drawer system, 65L water tank, 4.56 diff gears, full body restoration

U.A. RIG # 8



ULTIMATE ALL-ROUNDER

LUKE SWENSON

JEEP JK WRANGLER SHORTY

Luke's old man used to race a mental CJ7 when he was a kid, so Luke's fascination with Jeeps began early on in life. Luke picked up his shorty JK three years ago with nothing more than a basic 2in lift. His goal ever since has been to turn the tiny two-door into a reliable and practical long-distance tourer that's still capable of driving tough tracks on the weekends. Luke's heavily involved with the Queensland Jeep club, and has lead countless 4WD trips through south-east Queensland and northern NSW.

VEHICLE: 2008 Jeep JK Wrangler

ENGINE: 3.8L petrol V6 with Sprintex supercharger and 2.5in exhaust

TRANSMISSION: 6-speed manual

SUSPENSION: 3in raised American Expedition Vehicle springs with 2.5in King shocks and bump stops in the front, 3in raised AEV springs, King shocks and Teraflex bump stops in the rear

BARWORK: Rock Hard 4x4 full bar and rear bar made from 1/2in steel, Mopar Rubicon extended rock sliders

LOCKERS: Currie 60 Rock Jock diffs with ARB Air Lockers front and rear

TYRES: 35/12.5 R17 Nitto Trail Grapplers

WHEELS: ATX Slab bead locks

OTHER GEAR: 9,000LB WARN winch, LED light bars, Rock Hard 4x4 harness bar with 2in 4-point Takata harness

U.A. RIG # 9



TINY TOURER

TROY TOZER

MERCEDES UNIMOG

Credit where credit's due - big Troy is one heck of a driver. For those who don't know, a U1700 Mercedes Unimog is capable of driving up 60° inclines, through 2m of water and over... well, just about anything. And Troy tested every single one of those limits on this trip. Yes, the Mog is big and capable and all, but it's also 2.4m wide, 3m tall, and weighs 9.5t! That is a serious amount of metal to manage when all you can see is sky, the axles are starting to tramp and you're starting to lift wheels.

VEHICLE: 1989 MERCEDES U1700 UNIMOG

ENGINE: 6-cylinder, 5.7L turbo-diesel with 3in exhaust

TRANSMISSION: 8-speed manual

SUSPENSION: Standard height, custom King Off-Road Racing shock absorbers

BARWORK: Custom front winch bar, front cab brush bars and steel rear winch bar

LOCKERS: Factory lockers front and rear

TYRES: 46in Michelin XZL mud-terrains

WHEELS: Standard

OTHER GEAR: Front and rear 17,000lb Runva winches, Mercedes portal hubs, pressurised drivetrain, hydraulic crane, custom tray, LED lightbars, Sparco seats, 11kVA inverter

U.A. RIG # 10

BIG-BUCK ADVENTURE RIG



THE ULTIMATE ADVENTURE BEGINS IN **FORSTER**

Mud, mud and more mud -
bottomless bog holes were
on the menu today!



Next, we brought Troy up in the big Unimog. Plan was to get him through and up the exit (which was a decent 100m slippery climb with a step-up at half way) to higher ground so he could pull everyone else through. Ha! Turns out the 2.4m wide Mog doesn't fit in normal wheel tracks. He slid in on an angle, ploughed the bullbar into the bank before grinding to a traction-less halt. He muscled back and forth for a while, but he was only making things worse so out came the winch. Bog hole 2 - trucks 0!



Joel points at this "little puddle" and says "it'd be lucky to be hub deep. Haven't had much rain lately," he says. He was right, but forgot to mention the second bog hole right after was door sill deep and full of silt. Nek minut... Bugged! And taking on the foulest smelling water we've ever come across. This was at the start of a track called the Slipperies; named because it is a series of slippery clay slides one after another. Here we had lockers in but we still had absolutely no traction. Pulling lock to lock on the steering but our all-terrains just weren't biting and we were only making a mess. It was time to pull out the Domin8r



If you haven't heard the sound of a screaming super-charger at full noise do yourself a favour - jump onto 4WD Action website and check out the promo video for this trip because Luke's supercharged 'Bearded Chap' JK is seriously insane! Both lockers in, full noise and he was through in one go

Seeing how we got stuck, Matt was hell bent on trying a different line. With pin-point accuracy he crawled around the outside of the first hole so he could drop in higher up, closer to the exit. It was a ballsie move because if he got it wrong he could've tipped the Luxy on its side. One thing was obvious, though. Matt's had a lot of seat time and knows his Lux back to front. He managed to power up the exit, working the wheel like a madman to grab whatever traction his KM2s could muster. Solid drive mate!



"It's the perfect warm-up track," is how our local scout Joel described Blueberries Hill - the very first track to kick of this year's Ultimate Adventure. A warm-up is definitely one way of describing it; trial by fire is probably a little more accurate... And isn't Matt's Lux a capable rig? Using every bit of the Lux's front end flex; his solid-axle swap paid for itself in the first 50m of 4WDing!



It's funny how the camera never shows how steep hills like this truly are. This was the final climb out of the Slipperies, and by this point it was covered in a greasy layer of mud on top of its already slimy clay base. One truck after another made it to the top, dragging with it more and more slop. The best drive of the day proved to be a huge confidence booster for Troy. He took advantage of the Mog's extra wide wheel track finding traction half way up the rut walls



**YOU KNOW A TRIP'S
TOUGH WHEN YOU'RE
ONLY 50M IN AND
ALREADY WINCHING!**

Then there was Mike - a bloke who doesn't do things by halves. Encouraged by Darren's efforts, he powered in with a little more gusto. Sure enough, he came to a stop only he'd broken through the silt and he was able to grab enough traction to claw his way up the first part of the exit. He grabbed reverse and gave it another stab. In goes a set of Max Trax; he gives it another stab and up he pops. Bingo! And for the record, that is steam bellowing from the exhaust, but we'll tell you more about that later...



You know a track's tough when you're only 50m in and you're already winning! Yep, she was steep, rutted and covered in loose rock, but none of that posed a problem. It was the diff busting boulders that caught the Lux's rear diff that brought him to a stop. Didn't need much of a pull to get pass this point, though. From here Matt flexed his way through the rutted off-camber turn at the top before making it to the top

Yep, stuck again... And this is why they call it the Slipperies. It's one slippery slide after another with a pig pen full of mud at the bottom for good measure. "Cheers Dozza, I have a feeling I'll be repaying the favour soon enough!"

Our set of Max Trax paid for themselves in the very first bog hole. Once deployed, every vehicle managed to claw their way up and out of the exit without any assistance from a winch or snatch strap - even Dozza's behemoth of a Troopoy



WHERE WE CAMPED...

Kylie's Beach campground is located in the Crowdy National Park. There are 70 sites to choose from, it's camper trailer friendly and has full amenities. Costs are \$11.50 per adult per night, or \$6 per child per night.



Here's Dozza powering through the third mud hole. By now we'd travelled all of about 400m in five hours. Everyone covered in mud and keen to make a move, this final obstacle wasn't going to stand in anyone's way. Dozza dialled in a few more revs and powered through. The mud wasn't so much of an issue as was the clay climb out which saw him sliding backwards down the hill. He grabbed reverse, took a second stab working the wheel left to right and he was up

This trip was the first time Darren had taken his freshly chopped - not a scratch on it - mint-condition 80 Series out for a wheel since finishing the build. The thing was pristine - that was - until he hit the Slipperies. He gave it a little more mumbo and worked his way closer to the end but his all-terrains didn't quite have enough traction to climb out



It was pretty late by the time we pulled into our camp over at Kylie's Beach. A top spot about a 30 minute drive toward the coast. Time to dust off and get hooked into a, err - very late lunch... Yep, day one was a huge effort by the boys





There's stuck, then there's Unimog stuck! And when 9.5t of Unimog comes to a grinding halt you need to put your game-face on. With big Troy puckering in the driver's seat we ran the winch cable up the hill ready to perform the extraction. Don't make any sudden movements in there, mate



**BY NOW WE'D
TRAVELLED JUST
400M IN 5 HOURS!**

Having seen how deep that left rut was, Darren's aim here was to keep the driver's wheel up on the dry stuff while riding the passenger's side down the centre of the ruts. Yeah, that didn't work. With about as much grace as an elephant on an ice-skating rink, Darren's front end slid across into the bog. "Err; someone got that tree-trunk protector?"

THE ULTIMATE ADVENTURE WAUCHOPE

Huge rock ledges, diff
smashing boulders and
wheel lifts galore!



The next morning we uncovered two casualties from the day before. The first was a broken winch rope on the Mog. See, late that night while we were sitting around the fire the Mog's winch freakishly kicked into life. 'Zzzzzzzzz-BANG!' Yep, scared the bajesus' out of us. Turns out a bit of water worked its way in and shorted out the control box and it began to spool itself in - the result was a snapped eyelet right near the hook. Easy fix though, Troy robbed the rope off the rear winch and re-spooled it onto the front, using Matt's Lux to preload the drum



Worse still was Mike's JK. Driving into camp last night he noticed it was running hot. Thinking it was just mud in the radiator we stopped to wash it out - even got in behind the bullbar to clear out the lower half of the radiator that everyone misses - but it was still no good. The next morning we ruled out the thermostat, the fan and the radiator cap, then Mike went on to explain that he's had engine dramas with it in the past and this was his second motor in 50,000km. We pushed on for a while; limping it from servo to servo hoping it was just an air lock, but it never came good. Mike was left no choice but to call it quits to prevent doing any further damage. Turns out the motor has spat the head gasket and a few more big ends. He was devastated! The bush had claimed its first victim



Day two we headed north to Wauchope; a place known for monster wheel lifts. The first track called Jolly-nose had us pointing up towards a transmission tower overlooking the Port Macquarie coastline. Here it's loose, rocky and the start sees you navigating a huge tree root. You can see the GU here getting hung up on the gearbox crossmember courtesy of its modest 2in lift. All it took was a slightly different line and the big girl was up

Ah, the infamous Mousetrap hill. Mousetrap is a series of four steps spaced in such a way that it poses a problem for long wheel-base trucks. The first step is easily negotiated but it wipes off most of your momentum. It's a short run up to the second step which sees both your front and rear axles try to scramble their way up two ledges at the same time. With Darren's heavy rear end, drop offs either side and bugger-all traction under foot, it was pretty obvious by this point there was no way he could drive much further



Not a bad view from the top of the Jolly-nose track, eh? Darren's custom canopy setup served as the group's kitchen on the go. What a cracking truck; it's got ever gadget you'd ever want in a family tourer. After a quick bite we dart down to our next challenge



Luke saw a different line he knew the shorty could drive. Once the front was up, the back left caught the boulder and kicked him 'round - squaring it up to the step. Perfect! From there it was a simple pop up and over. Jeeps brag about their suspension travel - but ya know what? If ya got it - flaunt it, we reckon

With everyone up the first hump it was time to tackle the upper section of Jolly-Nose. Like most climbs in Wauchope, it was straight up, loose and scrabbly. Dozza's Troopie ate it up. Gotta hand it to the bloke. By this point any 'top-heavy' Troopie misnomers were blown away. With those 80 diffs and coils, this thing was as comfortable rock crawling as it is outback touring





How cool's this? Darren knocked up his own stainless tables that slide into square tubing mounts under the spare tyres. They take up next to no space in the canopy yet are so practical around camp. Bloody love this rig!



Ever seen an elephant stub his toe? Yeah, well that's exactly what it looked like when Troy brought the big Mog up to the top of Mousetrap. It walked the whole way to the top making mince meat of what everyone else got stuck on. Only, because of its wider stance, it caught the driver's front wheel on a tree stump which stopped it in its tracks...

WHERE WE CAMPED...

Swans Crossing campground is a large grassy free camping area in the Kerewong State Forest. It's camper trailer and pet friendly, has toilets, rain water tanks and a nearby swimming hole.



Ha! A Jeep spatula. Now we've seen it all...



Dozza's alternator didn't like the mug it'd ingested that same day. He tried hosing it out but it was toast. Luckily Dozza carried a spare for this very reason. Twenty minutes later the big Troopy was back up and running and charging like a wounded bull.



Dozza and Luke followed Darren's line straight up the steps. Sure enough, both got to a point where they had no option but to winch. This right here puts it into some perspective. Troopies are by no means a small rig, and this last rock step makes it look like a matchbox car



We'd noticed the GU's rear lockers had stopped working late in the day which turned out to be nothing more than a loose pin in the connector - you beauty



Seriously! Who'd have thought a 9.5t truck would have so much flex? One thing was obvious by this point in the trip - Troy makes his own tracks with the Mog. Just bumped his way up the guts, flexing every muscle that military machine has in its arsenal

... The sudden stop kicked the rear end around and had the Mog teetering precariously over a big hole on the passenger side. So close but yet so far. Out came the winch for what was no further than a metre or two until he was able to drive out



THE ULTIMATE ADVENTURE COFFS HARBOUR TO PEBBLY BEACH

Red clay, steep ruts and breathtaking beaches.
The ultimate bush to beach adventure in its own right!



We took the opportunity to wash the trucks off on the way out of Swans Crossing. This little track winds its way through a shallow creek bed before connecting back up to the main road out. Here you can see most of us crawling around the outside while Troy pulls in hell bent on taking the 'hard line' right up the guts



The Ultimate Adventure is all about living the off-road dream. Being hell bent on avoiding the tar at all costs. And I guess that's what this trip through Coffs was. We drove for what seemed like hundreds of kilometres (okay, maybe that's a little exaggerated but you get the point) through slow winding red clay tracks just to avoid having to dart back out to the freeway



Port Macquarie to Coffs Harbour via the dirt. The aim of the game here was to stick to as many dirt tracks as we could and only hit the tar as a very last resort...



That rut's a good metre deep and yet it looks like a mere pothole next to Troy's Mog. Plenty of trucks have pushed doors in on that rut, and here Troy's just trundling right over the top of it. What a beast!





Luke has lead a fair few Jeep club runs up through this part of Coffs, and you can see why. It's real flexy suspension sort of stuff, and in the wet, makes for a mean red clay tread-clogging hill climb. As you'd expect, each truck made it through here without dramas



Yeah, we'll take this over tarmac any day!



Good old Coffs. Never ceases to amaze me how steep this place is. It never looks it on camera, but this was one steep little number. Rear locker in, a wheel lift here and there and the GU walked right up



Easy does it, Luke. One wrong move and you'd drop into one of the many huge holes mid-way through the crossing





Beeep! Beeep! Beeep! ...For us, having the alarm go off at 6am each morning was part of the adventure. It marked the start of a new day of 4WDing and a whole new set of challenges. And really, who could complain when you're waking up to views like this?

WHERE WE CAMPED...

Pebbly Beach campground is located 50km north of Coffs Harbour in the Yuraygir National Park. Access to the campsite involves crossing a tidal creek, so it's advised to time your run in and out at low tide. There are 60 campsites, amenities and camping fees of \$11.50 per adult or \$6 per child per night can be paid directly to the onsite ranger.



The mission was to make our way across to Pebbly Beach via the back hills of Coffs by mid arvo. See, the race was on because the access to the campground is often cut off with a rising high tide which was at 4pm that evening



We found this unnamed track in the Yuraygir National Park, on the way over to Pebbly Beach. It's a beaut little run through a handful of wombat holes that leads back to the main track and out onto the sand





"What'd you find under there mate, a Prius?" Out of nowhere Troy's Mog threw up a warning light on the dash. Not something you want out the back of Coffs. Turns out it was nothing major, just a bit of water in a sensor plug. But we did notice one of the axles seals were starting to weep grease. Something he can sort when he gets home



Funny you know, these blokes hadn't showered in a week and they were more worried about giving the Lux a tub than themselves. Windows down on the trip home, eh boys?



THE ULTIMATE ADVENTURE GLASS HOUSE MOUNTAINS TO TEEWAH BEACH

With hundreds of kilometers of tracks, the Glass House Mountains has tough 4WDing at every turn



First track in the Glass House Mountains and yep she's tight, even by Jeep standards! Luke reckons the AEV springs and King shocks work a treat in JKs, and well, the proof is in the pudding. Crawling rocks is what Luke's JK does best



Pretty cool shot, right? No, our camera crew haven't been to a mud wrestling comp, it's just the lengths they go to everyday to capture every minute of the action



Uh oh! What's happened here? Turns out a bit of mud got lodged in the bead coming out of that last rut. Quick swap to the spare and we're back on track...



"Welcome to the Glass House Mountains, boys." And just like that we were into the action! It's about a five hour run up the coast from Pebbly to the Glass House Mountains. It's not the most exciting part of the week but heck, with tracks like this on the menu no one batted an eyelid



...Meanwhile, Troy's got the Mog on all sorts of angles. Check out this insane cocked rear wheel. Those are 46in muddies and that rut swallowed the front left tyre whole! Might need a change of grundies after that little moment, eh mate?

**THOSE ARE 46IN
MUDDIES, AND THAT
RUT SWALLOWED
THE TYRE WHOLE!**



Lock it in low and go, go, go!
It's hard to see, but just check
out how deep that bog hole re-
ally is at the back. Both lockers
in and the GU ate it up



Always ready to lend a hand!

WHERE WE CAMPED...

We camped at two spots for this part of the ultimate adventure. The first camp was at the Archer River camping area in the neighbouring D'Aguilar National Park. It costs \$5.95 per person per night and offers basic amenities.

You need to book online to camp on Teewah Beach in the Great Sandy National Park. Camp fires are permitted, and the only amenities are in the day-use area at the north end of the 15km camping zone. Costs are \$5.95 per person per night. You'll also need to book a Cooloola Recreation Area vehicle access permit which costs \$11.95/day.





What better way to finish a day of 4WDing out the back of Brissy than to board the ferry over to Teewah Beach? It's about an hour from the Glass House to the ferry, and it's worth every minute!

Just meters into the track and Darren was already climbing huge steps. Guess that's par for the course when you're carrying a little more weight over the rear axles

Climbing back up and out was a different story. Not wanting to catch the door on that huge rock, Matt put the driver's tyre up on top to help keep the truck level. Worked a treat, too. That solid-axle swap was worth every penny, mate!



DUSTING OFF

So there you have it, the 2015 Ultimate Off-road Adventure is done and dusted and it's one we will never forget. Each and every truck proved it could cut it as a tough tourer. Darren's chopped 80 is a little heavy in the rear, but with its high ground clearance, brute strength and plenty of mumbo, there weren't many places it could go.

Sure, Matt's SASed Lux might have been a little more at home on the rocks, but it ate up the highway and has oodles of space for his camping gear.

Mike's JK made a lot of blokes jealous. It didn't have the supercharger like Luke's shorty, but it had all the other bells and whistles and was able to drive everything we through at it. Luke's shorty JK was much the same. And damn, that supercharger sounded good!

Dozza's Troopy proved to be the dark horse in the group. Just when everyone thought he'd tip it on its side the big Troopy just walked its way up and over whatever obstacle it faced. With Toyota reliability, a bucket load of space in the back and the 80 Series diffs and coils - this rig has proven there is nothing it can't do.

Then there's Troy's Unimog. Okay, okay. He's spent a fair bit of money getting it to the condition it's in but hey... it's a tank! The thing will go anywhere. Full credit to Troy; he's a gun behind the wheel. I guess you've got to be when you're piloting a truck of its size.

We push the limits every day in the hope that we can inspire you to get out there for yourself. And look, your adventures don't have to be as extreme as ours. All you need is a 4WD, a tank of fuel and an unwavering love for the Aussie bush.

You only live once, folks. Get out there!



CHEERS!

Big thanks to Darren, Matt, Jase, Mike, Adam, Dozza, Luke and Troy, for taking time out to come along on this epic adventure. Thanks to Joel, Alex, Amyleigh, Cody and Josh for showing us around your backyard. There was no hesitation from anyone when it came time to jump in with a snatch strap, or a spanner whenever they were needed. That's the best thing about 4WDers - it doesn't take long at all for everyone to be laughing and carrying on like old mates, even if they've never met before. What a beauty!



NEXT ISSUE: CHEAP TRUCK CHALLENGE!

Ultimate Adventure's all about off-road eye candy, but what if you've got a truck on the budget end of the scale? Next issue, join Brenno as he takes a bunch of cheap truck addicts out bush for the epic Cheap Truck Challenge. There'll be mud, recoveries, near-rollovers and most of all, Zero Dollar Zook!

Don't miss issue 244 - on sale December 24th.

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WORDS BY GRAHAM CAHILL, PHOTOGRAPHY BY ROBERT CAMERIERE



We return to the remote Kimberley to finish what we started 5 years ago...



If there is a tougher touring truck getting around we are yet to see it



Dirty by name, dirty by nature - the old Dirty 30 isn't afraid to throw mud skywards



All the food groups....

It never felt like unfinished business; the opposite in fact, arriving in Oombulgoori after perhaps the single hardest 4WD slog of my life felt like utter triumph! The fact that we were not even a quarter of the way through our intended track and had to accept we were not going to make it any further wasn't even an issue. We'd done something bloody amazing, something I would never forget. However, for the last five years, I've wanted to finish that track more than any other in the country and now I had my chance.

It's at this point that I should back up a little for those unsure of what I'm getting at. Several years ago, myself and two mates Ronnie and Thomas plus our camera crew, attempted to drive from Wyndham to Kalumuburru via the remote settlement of Oombulgoori in the Kimberley region of WA. Back then the track hadn't been driven in decades and was virtually non-existent, couple that with a very late wet season and we only just (and I mean just) made it to Oombi. It was perhaps the single greatest trip I've done with this magazine. If you have not seen that adventure, I strongly urge you to grab a back copy of DVD 151 and have a look.

Fast forward to 2015. Knowing we were going to be in the top end after having pushed into Arnhem Land while filming, we all knew it made perfect sense to keep going, head west and try to finally finish what I'd started five years previously. Excited? You bloody bet I was.

Base camp for the first couple of days was one of my all time favourite towns in the country, Kununurra. After having been on the road for near on a month, the rigs needed some well earned TLC. Oils and filters had to be changed, mud washed off and the general chores of life on the road addressed. Of course there was also time made for a couple of beers at the local Kunu's Pub... all work and no play as they say. It's also right here I'd like to say a massive thanks to the lads at Kununurra 4WD Spares for lending knowledge, tools and expertise to get all our rigs back on the road and in a condition that we knew would get us the distance. Cheers lads.

As much as I'd been frothing on the idea of tackling the Oombi track once again, getting to hang out with my old mate Ronnie and his cranky Cruiser was right up there. True to form, Ron was all smiles, handshakes and terrible jokes; it felt like only five minutes had passed, not five years. That



said, both of us were sporting a lot more grey hairs but we figured that just adds character hey! Now speaking of cheeky buggers, I was stoked to learn that Ron would be travelling with his old man Colin; a bloke whose knowledge of the country we would be travelling through is unrivalled and who can also tell some wicked tales around a campfire late into the night. This was in all, shaping up to be the perfect return trip.

Now the Oombi Track is long and for the majority of its length your rig will be in low range, doesn't take a rocket scientist to figure out what that means; massive fuel consumption. My only concern was whether we'd have enough diesel to go the distance. Shaunno and Rocket would be almost 95% right with both their rigs having long range touring capacities. This left Shorty and Evil plus the camera car. I figured our only safe bet was to carry several spare jerry cans of fuel and thankfully, that's exactly what Evil does best, carry a load. With enough spare diesel onboard to nearly require a special transport permit, our motley crew were finally ready to make this happen.

Leaving Home Valley and tracking out past the small air field felt very familiar, as did the very first crossing of that tiny Bindoola Creek. Just like our attempt five years previous, it felt like we were stepping into the unknown. We drove without sight of a track, headlong into bonnet deep grass and this time, despite the familiar feeling, it couldn't have been more different. The distinct lack of water was the first difference, but then to see a well worn track on the other side leading north with confidence was unbelievable. That was most certainly not what I'd remembered. Seems our famous trip from all those years ago had fired up people's



Despite telling Rocket just how big the barra was I planned on catching, he seemed otherwise preoccupied



There might have been a distinct lack of water but the crossings were just as rocky as I remembered



It's not often you lock your hubs once then don't touch them again for several hundred km's - welcome to the Kimberley





lust for adventure and the region had in years since, seen a bit of traffic. Also, Ron was now running tours through the country fairly regularly in the dry. All this added up to a very well worn goat track snaking its way across that rocky country I love so much. Mixed feelings were had, I must admit.

As hard as I found it to believe, Ron had faith that we could, with a push, make it right the way through to where the small settlement of Oombulgoori once stood, in one day. I had my doubts given the last time it had taken several, very hard and long days to conquer what we were planning to smash in a single day. However, as we made our way along the now clearly visible track towards Oombi, I had to admit that conditions had indeed changed and what was a struggle

the first time was much easier now. Oombi didn't look quite so far away.

That said, it was still painfully slow going. I didn't get Shorty out of first or second, ever. It might have been more distinct, but the track is comprised of rough boulders, deep ruts and steep wash outs; in honesty there were times walking would have been faster.

Then there were the views. Occasionally Ron would come over the UHF to ask if I remembered certain sections of track, usually pointing out where we had been bogged, or busted or stranded all those years ago. For the most part it looked completely different but there was the odd location that stood out. Especially the high ridges along which we traversed and of course the creek and river crossings. This country grabbed

my heart the first time I visited and hasn't let go since.

Regardless just how much of the country I was remembering though, I couldn't really believe just how little water there was in the rivers. Actually, for the most part there was none! Sure, our last trip had been right at the tail end of the wet but I honestly

didn't expect the utter lack of water we were encountering. It was a stark look into just how much of a role the wet plays up there. When it rains it freaking pours but once it stops, well that's it. Harsh country.

There is a late arvo light you get in the Kimberley that I firmly believe just doesn't exist



The exit to this little jump up caught me by surprise, I had to get out and make sure I was actually still on the track



Picture perfect campsites alongside iconic Kimberley rivers. If it looks good it's because it bloody well is

"THIS COUNTRY GRABBED MY HEART THE FIRST TIME I VISITED AND IT HASN'T LET GO SINCE"





elsewhere. Perhaps it's to do with atmospheric smoke from the dry burns they do at that time of year or maybe it's just a Kimberley oddity but I've not seen evening light anywhere like it. As we made the last crossing for the day with the country glowing a deep red orange I reflected on just how different the conditions were when last I stood in that spot. Again, I urge you to check that DVD out, it's honestly one of the greats.

By the time we made it to the outskirts of the old Oombi settlement it was going on dark; Ron suggested we pull up on the marsh flats down near the Forrest River where we'd have plenty of space and firewood. It had been a long, long day and nobody had any arguments!

Of interest, as we all came into camp for the night under lights, there in the near distance was the unmistakable glow of a small campfire. Way out there in the middle of nowhere. Ron went to investigate and remarkably found a group of three bush walkers! Turns out these blokes had been dropped



These salt pans just outside Oombi were dry and dusty however patches were distinctly wet and could catch out the unwary very easily



There's not much Ronnie doesn't know about plants and animals in the Kimberley, for me it's always a pleasure to learn from the master



ENGINE WEAR

At what point does your vehicle experience the most engine wear?

Is it:

- A. When accelerating on the freeway to overtake
- B. Starting up the truck on a cold morning
- C. Braking when going downhill

For those of you who guessed B – you're right! Not many people know it, but cold starts are the number one culprits of engine wear. That's why it's important to use a grade of oil suited to the temperature you're likely to be using your 4WD.

Generally you'll use a higher start up number like a 15W if you live up north and a lower start up oil like a 5W if you live down south and regularly start the 4WD in freezing temperatures.

I'm using Valvoline's new Engine Armour Diesel and because we're here in the stinkin' hot Kimberley. I've got the 15W-50 in Shorty at the moment – it's got synthetic technology which means that even if I was dusting snow off the windscreen the oil could still handle the cold start. If you're driving a high performance 4WD, you need to fill it with high performance oil.

in by helicopter and then spent the last 10 odd days walking back south, following creeks and ridges, living off the land. They were knackered, filthy and smiling the kind of smiles only blokes who have just done something remarkable can. That was their last night, tomorrow they'd scheduled a heli pickup, and a cold beer was high on the order of business. Lads, if you read this, get in touch will you; I'd be very keen to hear more about that trip!

Course while you get a certain type of light late arvo in the Kimberley, you also get a certain night sky. Utterly unbelievable. We got a fire going and a basic meal on the coals, sat down with Ron and Colin for the first time and just enjoyed a good old fashioned catchup. For me, this was a moment I'd been thinking about ever since we did it last, five years ago in just about this exact same spot; it was a bloody good feeling. I'd like to say we lasted well into the night but that's not the truth, I think I was tucked up high in my rooftop tent at an embarrassingly early hour; long days of driving plus a campfire are the ultimate sleeping pill in my books.

So that next day was, as far as filming was concerned, day 1 of the trip. Made sense, that's where we finished last time, may as well start from here this time. I'll never forget the warm

welcome we received that wet, tropical arvo when we pulled into Oombulgoori 5 years ago; I felt like I'd come home to a heros welcome. Of course Ron had told me the community wouldn't look anything like I'd remembered but I was shocked to see that where once I'd experienced a vibrant community today there is only ruins and concrete slabs. You do your own research, come to your own conclusions but I've been there before and after, I've spent time with the locals, I saw the looks on the faces of Ron and Colin; what was allowed to happen to Oombulgoori can never, never



A more iconic Kimberley campsite you would be very hard pushed to find



Rocket isn't afraid to lift a wheel





be allowed to happen again. That's all I will say about that.

Something that couldn't be taken was the majestic row of mature boab trees that line the main street, they still stand proud and are in my mind and I think in the minds of all those who were forced to leave, just waiting till the families return one day. You would be hard pressed to find a more attractive main street in all of the country. It was fitting then that we begin filming right there under those

boabs, exactly where we finished our last trip.

It had been five years of waiting to finally be leaving Oombi bound for the coast, what followed was what I now consider to be the single best stretch of 4WD track in the country. Of course you can judge that for yourself when you get up there but to wet your appetite I'll describe how it all went down in the next part of this article... stay tuned.

Catch ya next time! 



FACT FILE

WHERE:

Just under 40km west of the WA / NT border, your trip starts at Kununurra in the far north of Western Australia. Officially the track to Oombulgarri begins behind the landing strip at the back of the Home Valley resort, along the Gibb River Road. That's the easy bit. The track then runs for some 90-odd kilometres to the now uninhabited Oombulgarri.

CAMPING:

Camping near the Forrest River offers plenty of space to spread out. As always be crocwise.

WHAT TO TAKE:

Everything you need to be self-sufficient; fuel, food and water, spares, recovery kit and satellite phone / EPIRB. Good navigation equipment including maps is essential.

BEST TIME TO TRAVEL:

Visiting in the dry season from May to August will mean less rain and cooler nights. September and April are the bookends to the wet season and although most tracks are passable it depends on the season.

FUEL AND SUPPLIES:

Fill your tanks and your jerry cans at Kununurra

TRIP STANDARD:

Trips are rated A through to E grade, with A meaning only suitable for vehicles with an extreme level of off-road modifications, and E meaning suitable for all types of 4WDs. This trip is rated C, it is slow-going, technical and remote but not overly difficult. Ensure you're prepared for any situation as track conditions change rapidly with wet weather. My attempt at this track five years ago was the most demanding trip I had ever undertaken in a 4WD. As I said then, prepare for this journey as if your life depends on it.

CONTACTS:

RONALD AND COLIN

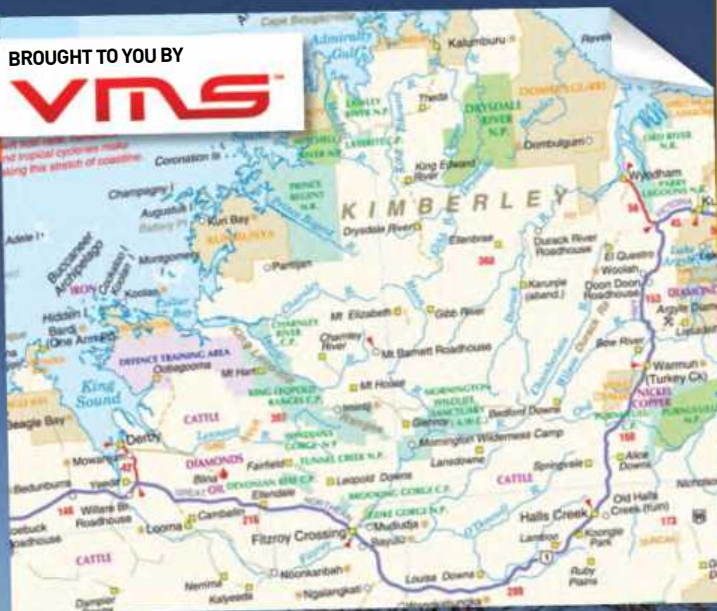
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COMP-SPEC DAILY DRIVER




WORDS BY JOCK MCDONALD, PHOTOGRAPHY BY DAVE WOLTSCHENKO →

This HiLux was built almost entirely in the back shed, but is 100% engineered and road legal

- Custom solid axle swap with an 80 Series Cruiser
- 4.7 ratio reduction gears
- Flipped radius arms
- Gear driven transfer case out of an LN106 HiLux

Every now and again we come across a truck that not only defines the term 'Custom' but also raises the bar to a whole new level. Not only is the truck you're about to see built to do exactly what the owner wants, but almost all of the work on the truck has been carried out in his backyard, and has been fully engineered. 4WDs as well thought out and built as this one are becoming harder to find nowadays. For Sydney based distribution power line worker Matt Kinsela, this 2002 Toyota HiLux SR5 ute was originally designed to cart his bikes around and to get him out 4WDing. Having previously owned a Toyota

LandCruiser 60 Series, Matt was after a reliable daily that would also get him where he needed to go out bush. "When I owned the 60 Series, being young, I found it was expensive to run and was also unreliable as a daily driver. When the time came to upgrade I wanted a turbo diesel ute to carry the bikes that was comfortable as a daily driver and the HiLux came out on top. At the time I bought the ute I had no idea what a solid axle swap was, and I intended to make the Lux a tourer. I started modifying the truck, and through natural progression, it turned into what it is today." What Matt has ended up with is a 4WD with comp truck capabilities, while maintaining on-road legality. 



Matt used smaller tube on the canopy cage to minimise the effect on the weight distribution of the truck



EXTERIOR

- Custom tube style hi-mount bar originally made by Black Bull off-road then modified
- Custom rock sliders and scrub bars
- Custom rear tube bar and rear winch cradle
- Custom made roof sliders to protect canopy
- Front high 8500lb high mount winch rear Warn 9.5xp winch
- Dobinsons 22in lightbar & 2 Lightforce 170 strikers

When it came time to protect the outside of the truck, Matt knew exactly what he planned to use the truck for, and custom made the barwork to suit. "The weight of the barwork in a way is a downside to looking after the truck, but it is necessary if you care about it." To that end Matt fabricated a lot of the barwork out of one and three quarter inch tubing. "Weight saving was a massive factor when I fabricated a lot of the barwork. Obviously using larger tubing would have protected the truck from everything that it went up against, but would probably tear the chassis out from underneath." With the type of 4WDing Matt uses his Lux for, the barwork is absolutely critical. One of the challenges he faced however came with the fitting of the canopy on the back. "Putting the truck on gnarly angles meant I was looking at resting the canopy up against a tree or a rock. I wanted to make an exo-cage for it that was strong, but didn't affect top heavy weight too much on the truck. I found that one and a half inch tubing was the most effective to use to accommodate strength and weight." The added bonus of this cage on Matt's truck is that it connects to the internal rollbar in the tub, for added strength. And at the end of the day, heaps of daily drivers have rock sliders, but how many have roof sliders?





The barwork on Matt's Lux runs the entire way around the truck, meaning he doesn't have to worry about the body all the time off-road



REAL 4WD

SAS ID TOYOTA HILUX SR5



"ONLY DO A SAS CONVERSION IF YOU ARE REALLY GOING TO USE IT... OTHERWISE YOU ARE JUST WASTING YOUR MONEY"



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COMP TRUCK CAPABILITIES, WHILE MAINTAINING ON-ROAD LEGALITY

WHAT ADVICE WOULD YOU GIVE TO SOMEONE LOOKING TO SAS THEIR TRUCK?

"If I had to give someone advice on a SAS conversion, it would be to only do it if you are really going to use it. It's expensive, it affects resale value, and you'll be playing cat and mouse with the boys in blue if you don't look at engineering. If you're just doing it because you don't like IFS or you just want a solid axle, you are wasting your money."



ENGINE AND DRIVELINE

- 3.0L four cylinder factory turbocharged diesel
- 4.1 geared diff ratios
- LN106 HiLux transfer case
- Factory HiLux driveshafts
- Water to air intercooler
- Front and Rear ARB Air Lockers
- DP Performance chip
- Custom made three inch exhaust
- 80 Series front brakes and calipers

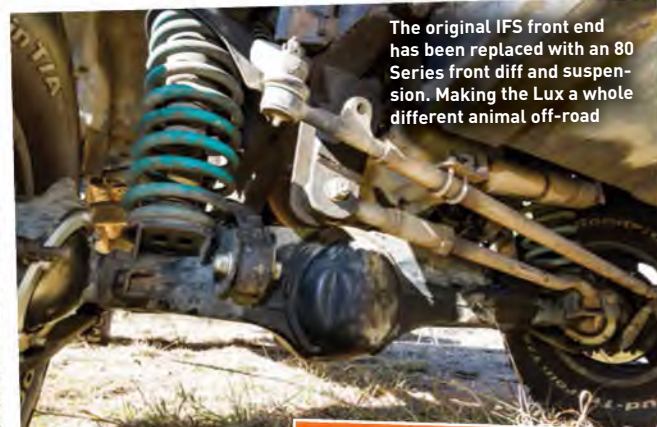
With functionality being a critical component of the Lux build, Matt has set his engine and driveline up to be extremely capable, but not at the cost of reliability. Aside from a water to air intercooler setup and a performance chip as well as a custom three inch exhaust system, Matt has left a lot of the factory 1KZ-TE diesel alone. Where Matt has turned his attention to however, is the driveline of the HiLux. The factory independent front suspension has been cut out, and replaced with a diff housing out of an 80 Series LandCruiser. This gave the Lux a massive advantage off-road, but it wasn't without challenges. "Being a lower chassis at the front compared to an LN106 HiLux, you naturally lose up travel." Further to this, the wheel track of an 80 Series is wider than the IFS HiLux, which resulted in the front wheel track being wider than the rear. "I ran wheel spacers for about a year but then decided to change to something different. The newer HiLux wheel track is wider than the older models, so I swapped out the rear diff housing with a 2010 model." This also meant Matt was able to keep the rear air locker he had put in his truck earlier on. The Lux also has shaved diffs front and rear for extra clearance and Matt has also added a custom anti-wrap bar that links the chassis to the rear diff, minimising axle wrap which helps with control and keeping power to the ground. To help with low range crawling, Matt also added 4.7 ratio reduction gears. However to achieve this, the Lux is running a gear driven transfer case out of an LN106 HiLux, rather than the factory chain driven unit. "The reduction gears give me a whole lot more control off-road which really helps with the technical driving." The LN106 HiLux transfer case also enabled Matt to run a transfer case handbrake on the back, rather than using the factory Toyota handbrake, which is a known weak point in the HiLux.



SUSPENSION, WHEELS & TYRES

- Five inch lift with three inch LandCruiser 80 Series springs
- Six inch 80 Series front Dobinsons shocks
- Solid axle swapped front
- Allied Savannah 16x8 -25 offset beadlocked wheels
- 315/75/R16 BFGoodrich Mud Terrain KM2
- Six inch Dobinsons rear GU Patrol shock absorbers
- 80 Series front control arms
- Five inch Longer leaf springs and 200mm extended shackles

The suspension in Matt's HiLux has been set up to be comfortable on-road, but extremely capable off-road. "I wanted the truck to be capable on the tougher tracks, but still be able to get me to work during the week." This was one of the reasons Matt also went for a coil sprung solid axle swap, rather than the more common leaf sprung swap that you see in most solid axle swapped HiLuxes. The combination of coils and flipped radius arms in the front and leaves in the rear means that Matt can often drive his truck further than his mates in the bigger coil sprung Cruisers and Patrols. "A lot of my mates that I would go out wheeling with would often hit their lower control arms on sections of the track that I was able to get straight over because of the rear leaf setup." Another critical factor Matt had to consider during the build was the availability of second hand parts. "I wanted to keep it pretty much Toyota, and wanted to use parts that I could find easily if I was out bush. At the end of the day if I break something up the Cape, it would be a lot easier to find an 80 Series coil rather than a custom made one."



The original IFS front end has been replaced with an 80 Series front diff and suspension. Making the Lux a whole different animal off-road

IF YOU HAD YOUR TIME OVER AGAIN, WHAT WOULD YOU DO DIFFERENTLY?

I would probably look at putting coilovers in the front of the truck rather than coils. As there is more adjustability with coilovers and they are a bit more refined. Having said that I probably wouldn't change to coilovers now, because I would have to get it re-engineered, and the current setup is doing exactly what I want it to do. As well as that, it's a lot easier to find an 80 Series spring out bush than a custom coilover."



INTERIOR

- Replaced factory SR5 seats with leather Jeep seats
- ARB air compressor, wiring and fuse box hidden behind the seat
- Kicker four channel amp and 12in Kicker subwoofer
- Overhead roof console
- Aftermarket cruise control
- Custom built roll cage in the canopy
- Speco boost and water temp gauge, VDO EGT gauge

When it comes to the interior of the truck, apart from some minor creature comforts, Matt hasn't changed a lot here. The factory SR5 seats were replaced with a set of leather seats out of a Jeep and Matt has also added aftermarket cruise control. In the back of the truck sits a custom fabricated roll cage that connects to the canopy cage on the roof, for added strength.



The internal canopy roll cage connects to the outer canopy barwork for extra strength

RUNDOWN

VEHICLE: 2002 Toyota HiLux SR5

ENGINE: 1KZ-TE 4 cylinder factory turbocharged diesel

GEARBOX: 5-speed manual

4WD ACTIVATION: Lever operated and manual locking hubs

SUSPENSION: Solid axle swapped Toyota LandCruiser 80 Series front diff, three inch springs and Dobinson six inch shocks, 2010 HiLux rear diff with six inch GU shocks and mounts and five inch longer leaf packs with 200mm shackles

WHEELS AND TYRES: 315/75/16 BFG Mud Terrain KM2, 16x8 -25 Allied Savannah beadlocks

"I would like to thank JMAC Diff and Gear, Dobinsons Narellan, Chester at Off-road Solutions and Dutchy at Dutchy Automotive. I would also like to thank my parents for not kicking me out after destroying their yard...and Kinselas Kustoms for all the sick barwork. And my beautiful girlfriend Julia for not leaving me after spending more time and money on my Lux than her."



SEE ALL THE ULTIMATE ADVENTURE TRUCKS IN DETAIL!

Keep an eye out as we feature one of the Ultimate Adventure rigs every issue over the next couple of mags. Find out what makes these weapons tick, and hear direct from the owners who built them!



SEE THIS BEAST IN ACTION

Reading about Matt's mental HiLux is one thing, but seeing it in action is even better. Check it out in all its flexing glory on this issue's DVD!

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WORDS DAN REBER, PHOTOGRAPHY BY DAVE WOLTSCHENKO



SURVIVE **THE MINE FIELD**

Buying an ex-mines 4WD can net you the bargain of the century, but only if you get it right. Check out the inside scoop to land yourself a winner

Ex-mines 4WDs have always been shrouded in controversy. From tales of abused 4WDs that've been flogged within an inch of their lives to vehicles that've rusted out before the owner's eyes, it can be a real mine field (excuse the pun) to find

a solid, well-maintained 4WD that's come out of the mines. However, it should be said real early, that if you know where to look, and how to navigate the market, there are some extremely well maintained, well modified and exceptional value 4WDs to be had by buying from the mines.

What to look for, which vehicles to buy and which ones to avoid have always been the big questions to ask as well as which sectors of a mine produce the best and worst vehicles. Well, we're going to lift the veil on mines industry vehicles and put the topic to bed once and for all, but we're

not doing it alone. We've got miners, mines mechanics, fleet managers, commercial 4WD sales managers and mines auctioneers on board for the biggest mines expose we've ever done.

This is the definitive, no-argument guide to buying an ex-mines 4WD – read on.

MEET YOUR EX-MINES EXPERTS

The guys that drive them, fix them, manage and sell them – these are the mines 4WD experts!



NAME: Justin Collins – Mines mechanic

WHAT HE KNOWS: Justin has been involved with mines as a mechanic for years. From light vehicle mechanics right through to the heavy vehicle, underground workshops, Justin has seen and repaired it all.



NAME: Matthew Crane – Sales Manager, East Coast Commercials

WHAT HE KNOWS: As the sales manager for East Coast Commercials, Matthew has bought and sold hundreds of ex-mines 4WDs through the yard. ECC's strict quality control means that Matthew has an eye for which vehicles to buy and which ones to avoid.



NAME: CONFIDENTIAL

POSITION, COMPANY: CONFIDENTIAL

WHAT HE KNOWS: Our mines insider works in a zinc mine in the far north of the country and manages light vehicle fleets as well as working as a mechanic. He's agreed to dish out the real, no-bull info on buying a 4WD from the mines. This is the info that the mines don't want you to know!



BEFORE WE BEGIN...

It must be said here and now, that before you buy any 4WD, you should be carrying out full mechanical and cosmetic checks. This is an article focussing on the finer points of buying specifically from the mines. If you're not confident inspecting a vehicle, then you shouldn't be going this alone. Take someone with you who knows their way around a 4WD and can help you. You can buy a lemon of a 4WD anywhere, but if you don't rush, have done your homework and are prepared to walk away from several 4WDs, you can find the right one for a steal!

REAL READER EXPERIENCE

MIKE KERSEY

"I've got 2010 76 LandCruiser which was an ex-miner with 145,000km on the clock. Apart from all the unwanted wiring and a few other bits and pieces, the engine runs like clockwork and the body work is spot on. I'd buy another ex-mines 4WD with no worries at all. Just choose carefully."



Management vehicles are the pick of the bunch, rarely venturing underground and spending most of their lives carting around a briefcase



4WDs like this immaculate medical response 200 Series see very minimal work (thankfully) and are usually fastidiously maintained

THE TYPES OF MINE VEHICLES YOU'RE GOING TO SEE...



↓ EXPLORATION

PURPOSE:

Mining companies spend billions of dollars setting up new mines, and to do so a couple of lucky buggers first have to get out to those remote locations and find out if they're worth digging. Exploration vehicles usually do a huge amount of kays, get driven pretty hard, but overall do similar work to your average touring 4WD. With a couple of bucks thrown at them for fresh parts, an exploration vehicle is a great way to score a Cape-ready 4WD tomorrow.

AVERAGE KM: HIGH

AVERAGE CONDITION: OKAY

COST SAVINGS: HIGH

BUYING USED RATING: ★★★★★

↓ OPEN CUT

PURPOSE:

Open cut vehicles spend most of their lives hauling heavy tools and equipment up and down the muddy slopes of open cut mines. They're driven hard, through some pretty corrosive chemicals and generally get thrashed pretty hard by the blokes that drive 'em. It's not impossible to find a good one with only some minor cosmetic touch-ups needed, but if you've got time, there are better vehicles to be found.

AVERAGE KM: MID

AVERAGE CONDITION: POOR

COST SAVINGS: EXTREMELY HIGH

BUYING USED RATING: ★★☆☆☆

↓ MANAGEMENT VEHICLES

PURPOSE:

Ex-management 4WDs are the ones you really want to keep your eyes open for. While yes, there's always a risk they've been exposed to the wrong elements, they usually spend their time carting a bloke and a briefcase to and from a mine site and around to various site offices. Some are the personal 4WDs of blokes that sit in an office all day and as such have only ever seen the blacktop between home and the office. A little like your average Toorak tractor, only these ones are kitted with all the gear and ready to roll. If they go underground, they're usually cleaned well afterwards and will only go under for brief periods now and again.

AVERAGE KM: MID

AVERAGE CONDITION: GOOD - EXCELLENT

COST SAVINGS: HIGH

BUYING USED RATING: ★★★★★

↓ EMERGENCY VEHICLES

PURPOSE:

Emergency vehicles in the mines can range from 79 Series Cruisers, to 200 Series' with \$50,000 kit-outs. They usually don't do much until there's an emergency, but there is a risk that they've gone underground a few times in their lives into highly corrosive environments. With a good inspection though, they can be some of the best used buys to come out of the mines.

AVERAGE KM: LOW

AVERAGE CONDITION: EXCELLENT

COST SAVINGS: MID

BUYING USED RATING: ★★★★★

MINES AMBULANCES

"Our 1HD-FTE powered 78 Series ambulances are a brilliant buy. They do bugger all hours in between services (around 250 hours), go underground, but are washed fastidiously afterwards. They're a great used buy."



↓ UNDERGROUND VEHICLES

PURPOSE:

Okay, there isn't much to say here except that if you've heard a horror story about an ex-mines 4WD, odds are it was an underground vehicle. These trucks spend almost their entire lives locked in low-range, splashing through highly corrosive sludge underground. They're driven like rentals, and while some mining companies will mechanically maintain them well, the overall risk of bad corrosion is high. Do yourself a favour, leave them alone unless you know the vehicle very well.

AVERAGE KM: MID - HIGH

AVERAGE CONDITION: BAD - WORSE

COST SAVINGS: EXTREMELY HIGH

BUYING USED RATING: ★☆☆☆☆

MINES VEHICLE SERVICING

JUSTIN COLLINS, MINE MECHANIC

"Now, I can't speak for every mining company in Australia, but with ours the vehicle maintenance was so strict it was almost fanatical," says Justin. "I'd go as far as to say that our 4WDs are serviced more thoroughly and often than any vehicle you'll see out in the general public. Filters, fluids and consumable parts are replaced based not only on time and kilometre intervals, but more recently on engine hours – similar to a boat. We never recondition damage parts or rebuild components, they're always replaced with new parts. In our workshop there are walls of brand new diffs, gear-boxes and every part you could ever imagine ready to go. The new V8 mines Cruisers are serviced on average every 1000km – I'd buy one in a heartbeat."

"OUR SERVICING IS BETTER THAN TOYOTA!"

"I can say without hesitation that the vehicles on our mine are serviced better than you'll ever see in a Toyota dealership. We have had contracts in excess of four million dollars on parts and servicing with Toyota – you don't get that by cutting corners and being cheap."



"On our mine in North Queensland, the management vehicles are immaculate. They drive straight through the front gates and park beside the office. If they do go underground, they'll be cleaned properly rather than go through the wheel wash. The wheel wash uses recycled water that fires at extremely high pressure which over time can knock the underbody paint off, leading to rust. The paint will also fade over time."



WHAT GOES WRONG WITH MINE VEHICLES?

Shop with confidence by knowing where to look and when to walk away

↓ RUST

Yep, we're going to start with rust because, let's face it, it's on the tip of your tongue just thinking about an ex-mines 4WD. There's no getting away from the fact that there are people, dealers and companies devoted to sprucing up rust-buckets and passing the rip-off on to you. However, there are also a lot of auction houses and dealers out there that have extremely stringent quality control standards when it comes to ex-mines vehicles.

↓ WHERE AND HOW TO LOOK FOR RUST IN A MINES 4WD

CHASSIS RAILS

Give them a gentle poke and prod with a screwdriver. Be on the lookout for any crunchy bits, or flaking paint. Of course, if you manage to poke a hole straight through the chassis rail, then walk away – fast!

WINDSCREEN AND WINDOW SURROUNDS

Pry back the edge of the rubbers in the bottom corners and look for bubbling paint or surface rust.

INNER GUARDS AND HINGES

Coal dust tends to get in everywhere and sit dormant until it gets wet, starting a nightmare rust process. Check around door hinges, where grease will trap.

FLOOR PAN

Go over the floor pan around the wheels and tailshaft with an extension bar just giving things a poke and a tap. Lift the carpets and thoroughly look at the floor from above.

Have a close look at leaf springs, coil towers, areas above and behind rotating parts. The thought being that any acidic crap is going to get thrown into certain areas more than others and will give you a quick indication of whether or not that 4WD has been in the pits.



↓ MECHANICAL ABUSE

Besides rust, mechanical abuse is the other main drama (although much easier to fix) that can plague an ex-mines vehicle. If buying from an auction, it's honestly a wise idea to factor in a few grand on top of the purchase price to replace worn components. Things like clutches, uni joints, tie rods, and suspension can all probably do with a freshen up after a life in the mines.

MINE VEHICLES MUST BE ROADWORTHY

"Every year any light vehicle in the mines must have a SAF-8 inspection, which ensures that all vehicles are in a roadworthy condition. It's basically a mine site rego check and is very strictly monitored."

- JUSTIN COLLINS



DID YOU KNOW...

Commercial vehicles do not carry a government statutory warranty like other vehicles?

MINE ROADS CAUSE RUST

To control dust on the dirt roads around mine sites, water trucks will often spray bore water down on the road surface. That's all good and well for controlling dust, but the water used is hyper saline (has a high salt concentration) and is a serious contributor to rusting vehicles.



REAL READER EXPERIENCE

SAMANTHA ARMSTRONG

"My partner and I bought a stock 2008 Patrol with 120,000 on the clock for \$10,000 a couple months ago and touch wood it has not missed a beat! The Patrol came with a full service record and has been well looked after. The only fault is cosmetic the dash has melted and looks crappy, but that seems to be manufacturing fault other owners are also facing. With these vehicles you really just need to look them over and be patient in finding one. You can buy a lemon from anywhere."

MINIMISING DRIVER ABUSE

"Most mining vehicles across Australia are now being fitted with IVMS (in vehicle monitoring system), which monitor not only the speed that a vehicle does (30km/h mines speed limit) but also the engine revs," says Justin. "Blokes are getting their butts kicked for thrashing the trucks and as a result we're seeing less and less damage from mechanical abuse. Some systems even monitor harsh braking, acceleration and bumps! Obviously this benefits the person looking to buy one after its run in the mines."

- JUSTIN COLLINS

AUCTIONS VS DEALER

Buying from a reputable dealer will always be the safest bet when buying ex-mines. Dealers have a reputation to uphold; auction houses are merely middle men. There certainly are some pearls to be had from auctions, however because it's harder to check and test drive an auction vehicle, you're definitely taking a bigger risk. Quite often 4WDs that don't pass a dealer's standards will end up in the auctions - you decide where you'd rather place your money.

"The service histories can vary greatly between mining companies," says Matthew. "Some are fastidiously maintained and present in show room condition, while others barely get a lick of maintenance and get driven bloody hard. Over time, we've identified exactly which companies look after their 4WD fleet the best, and we'll only deal with them."

- MATTHEW

NOT ALL MINE 4WDs ARE THE SAME

"Just because a 4WD is a 'worker' vehicle doesn't mean it's spent its life running 23 hours a day and living underground. Something like a driller's 4WD will drive to a drill rig, park and then not switch back on for the day till the driller drives home. A vehicle like that could be a great buy!"



THE GEAR YOU CAN SCORE!

Mines vehicles Australia wide are fitted with a fair bit of aftermarket gear before heading out on their tour of duty. Some of the gear you'll find includes;

- Steel bullbars and winches
- Driving lights
- Additional reverse lights
- UHF
- ROPS (Roll over protection)

ENGINEERING STANDARDS FOR YOUR STATE

"Engineering and roadworthy standards obviously vary from state to state, and with all the modifications fitted to mining vehicles it pays to check that the vehicle will be registerable before purchase."

- **MATTHEW CRANE**

- Turbo vehicles are fitted with fire suppression systems
- Other vehicles such as exploration 4WDs can come with long range tanks, additional 12V gear and other touring oriented modifications, as that's essentially what they are, touring 4WDs.

DON'T BUY FROM PHOTOS

"The biggest trap for people buying from the mines is buying based of photos or a distant look at the auctions. You need to touch, look and hear the 4WD to really spot a lemon - just as you would with any other 4WD you wanted to buy. A junk ex-mines 4WD will be just as easy to pick as any other junk 4WD from a private seller or non-commercial dealer."



RESEARCH YOUR LOCATIONS

Wet or dry mines can make a huge difference to a vehicle's condition, as can the material that's being mined. A dry mine is an open cut mine, like the Super Pit in WA. A wet mine, is an underground mine that usually has a waterway running through it. If the sump pumps fail, then the mine can flood meaning bonnet high water crossings for 4WDs through corrosive slop. Check where a 4WD has come from and do a quick search about the mine. For example the Olympic Dam mine in SA is roughly 20 times more corrosive than the sea.



OBTAINING SERVICE HISTORIES

Service histories are usually kept locked in a safe along with spare keys for the trucks. As a result these can end up not being stamped when the truck is serviced. Be aware, because just because the service book is looking a little drab, doesn't mean the truck has been neglected. If you find out where the vehicle has come from (you should be asking this) then you can contact the mine and request the service logs for that vehicle. They shouldn't have a problem handing them over if you ask.

There's no denying it; buying an ex mining 4WD from a reputable dealer or auction house is an amazing way to save stacks

Year:	2012
Series:	VDJ200R MY12
Badge:	GX
Body:	5 Door Wagon
Colour:	GLACIER WHITE
Transmission:	6 Speed Auto Seq Sportshift
Drive:	4WD
Odometer:	18557
Engine:	8 Cyls
Fuel:	Diesel
Seals:	5
Rego #:	
Expiry:	
Stock No:	23656

Statutory Warranty Exempt: No

PRICE: \$66,801.00

DRIVE AWAY: \$69,980.00 *

* (Drive Away Price Includes Government Charges)

Quality accessories like bullbars, winches, driving lights and more are to be had by buying an ex miner

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Mackay's Adventure DESTINATION

With acres of waterfront camping, sensational 4WDing, boating and barra fishing - you won't be left wanting at Eungella Dam!

WORDS BY STEVE COLLINS, PHOTOGRAPHY BY MEGAN STACE



EUNGELLA DAM, MACKAY

REAL 4WDING



WWW.4WDACTION.COM.AU 091

Ruts, ruts and more... ruts! Last time we were here this track was dead flat! The hills around Eungella Dam cop a lot of heavy rain throughout the year which means it doesn't take long for ruts like this to form



Have you noticed it's getting harder to find real adventure destinations that aren't packed with tourists, littered with rubbish or over policed? Visit just about any national park near a major city and sure as eggs everything is bollarded, you're crammed in like sardines and there are more provisions for back-packers than there are for bush-loving Aussie 4WDers... and don't get us started on camping fees!

But guess what? There are still plenty of action-packed 4WD destinations if you know where to look. In fact, we found one absolute ball-tearer that's guaranteed to bring out the adventure addict in everyone. We're talking about the Eungella Dam west of Mackay, of course. A true off-roaders dream where you can bring your fourby, your camper trailer, dirt bike, boat, kayak, fishing rods and even your furry-four legged family member and not have to pay out the nose for the privilege.

What's better is that there are no tourists, bollards, tent confines or 'No Dogs Allowed' signs. Just good old-fashioned bush camping at the foot hills of a heap of sensational 4WD tracks.

If the sound of that doesn't get you excited, the low-range hill climbs right out of camp will. We're talking ruts so deep they'd swallow Zero Dollar Zook whole and tread clogging clay so slippery you'll be calling for the winch at the first drop of rain. And that's not all. There are dirt bike trails galore, plenty of places to throw the kayak in for a paddle and you can even catch a barra in the dam at the right time of year.

Sold yet? Yeah, didn't take us long to fall in love with the place either.

HOW TO GET THERE

Eungella Dam is 1077km north of Brisby or 115km west of Mackay. Getting there is as easy as following the Bruce Hwy north from Brisby until you hit Sarina. From there, follow the signs to Eton, then on to Mirani along the Mackay-Eungella Rd. Head west towards the Broken River where you'll make the steep climb over the mountain range (not recommended for long trailers) then down to the Crediton State Forest and on to Eungella Dam.

THE ADVENTURE WAY TO MACKAY

If you've got a spare week up your sleeve, why not upsize your adventure by taking in a few



You wouldn't know it but there was a huge log blocking the main track which meant the only way through this section was crawling through this rut. Nothing like a quick stretch to limber up for a day on the tracks

more 4WD hotspots along the way? First stop - Fraser Island!

Board the ferry at Rainbow Beach which is a short three hour drive from Brissy, then head straight up past the Maheno to Waddy Point. Spend a few days camped on the beach then head across the island and catch the ferry over to Hervey Bay.

From Hervey Bay head 490km north with your sights set on the Byfield National Park just outside of Rocky. Here you can explore kilometres of tropical 4WD tracks, cracking beach camps and - just in case you didn't get enough at Fraser - wet a line at Nine Mile Beach. From there, it's just a few hours to Eungella Dam which means you can be there, set up and kicking back with a tinnie, fishing rod in hand, in time to watch the sun drop over the water that evening.



This isn't the first time Steve's been bullied off a fishing spot



Some of the best tracks in the area will have you grabbing the stubby stick while you're still in the campground

How cool's this? The view over the top of Eungella Dam is well worth the trek up. The track from here keeps climbing past this lookout and becomes very steep, rutted and rocky. It's not one for the faint-hearted!





What's good about this trek is that being a state forest it's all dog friendly!



If this doesn't light a fire in your belly, we're not sure what will!

WHY IT'S A CRACKING 4WD DESTINATION

Three words; steep, rutted, muddy. That's how you'd describe the terrain around Eungella, particularly after rain. In fact, here's one to wet your whistle. Take the left hand turn past the ranger's residence over near the dam wall. Head up the hill and turn right when you get to the fork. From here you'll head up to the lookout, and further up to the top of what is a short but fun little scrabbly rocky hill climb. Pick your line carefully too; some of the bends are off-camber.

The real flexy stuff can be found in the Crediton State Forest. You'll find a heap of deep ruts that'll see you crossed up, diffed out and weaving between trees all at the same time. This truly is technical 4WDing at its best, and there's enough of it to keep you frothing for days.

Even better, it doesn't matter if you've got a bog-stock Pajero or a 4in lifted, twin-locked Cruiser - you're going to have a blast because most tracks have a few lines ranging from easy to "holy...soot!".





The little creek that runs along The Diggings camping area makes for the perfect place to cool off in the warmer summer months

THE PICK OF THE CAMPSITES

Eungella Dam speaks for itself, which is why the campground on the banks of the Eungella Dam is our pick of the campgrounds in the region. It's pet friendly, allows fires, has drinking water, cold showers, rubbish bins and flushing toilets, but what's better is that there are acres of waterfront campsites so you're almost guaranteed one of your own - even during the peak season! And here's our tip - nab one of the sites on the western side of the hill, up on the northern end of the dam if you

want to be sheltered from any wind. If you can see the dam wall then you're in the right spot.

THE GEAR YOU'LL NEED

Because there's limited mobile coverage, you're a few hours from Mackay and track conditions can change quickly; it pays to be prepared for a place like this.

For the truck - muddies, a 2in suspension lift and a recovery kit is all you'll need to have a good time, but if you want to take on some of the tougher tracks, you'd at least want a locker or a winch - or both. A set of MaxTrax

will pay for themselves in no time if it's been wet. But all in all, you're not going to get yourself into too much strife.

FOR THE FISHOS

You generally don't need a fishing permit for recreational fishing in Queensland, but here you do and look, it's worth it. The money raised from these permits go into restocking programs as barra can't breed in fresh water lakes. The dam is stocked with barra - yep, barra! You'll also find sooty grunter, sleepy cod and saratoga. Sooties are the mainstay fish here.

Throw a few soft plastics at the dam wall and it won't take long to hook up. And they fight hard, too, which is exactly what you want if you're trying to get your kids into fishing.

Small boats can be launched from the boat ramp, though your best bet for getting into the prime spots among the wood lands is by kayak. And it's worth it too, because that's exactly where the barra are. Barra are most active around dawn and dusk when the water is warm (summer) and tend to hang around the structures on the south-eastern side of the dam.

THE BEST 4WD TRACKS START JUST 50M FROM CAMP



There aren't many places on the east coast where you can watch the sun set over the water. Well guess what? Eungella Dam is one of them!

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FACT FILE

WHERE:

Eungella Dam is located 115km west of Mackay or 1077km (13hrs) north of Brisbane. Take the Bruce Hwy north until Sarina where you'll take the Sarina-Homebush Rd exit. From there, follow the signs to Eton, then on to Mirani along the Mackay-Eungella Rd. Head west towards the Broken River where you'll make the steep climb up the mountain (not recommended for long trailers) then down to the Crediton State Forest and on to Eungella Dam.

HOW IT CAME ABOUT:

Eungella Dam was constructed back in 1969 to supply water to the nearby towns of Collinsville and Scottville, and to support the needs of the Collinsville thermal power station down the road.

CAMPING:

EUNGELLA DAM: Acres of waterfront campsites with amenities and a boat ramp; fees apply.

CREDITON HALL: A handful of grassy, well-shaded sites suitable for up to 24 people. Basic facilities; however fires are not allowed.

DENHAM RANGE: Walk-in or 4WD access only with basic facilities.

THE DIGGINGS: A handful of grassy, well-shaded sites on the Broken River, no facilities.

FACILITIES & AMENITIES:

The Eungella Dam campground has good facilities, including flushing toilets, cold showers, picnic tables and rubbish bins. More picnic tables and a second toilet block can be found across the water near the dam wall itself, though camping is not permitted.

There are basic drop toilets and water tanks available at Crediton Hall and Denham Range camping areas, however, there are no facilities at The Diggings campground.

WHAT TO TAKE:

You're not far from Eungella or Collinsville, so you don't need to go too overboard with supplies, but you will need to be self-sufficient. Make sure you have decent off-road tyres, a recovery kit, traction aids like MaxTrax, a first aid kit, a sat phone and enough food and water to last your stay. There isn't much timber around the Eungella Dam, so it'd be worth collecting firewood before you get to camp.

BEST TIME TO TRAVEL:

If you're planning your trip around chasing barra, aim for April-May or October-November. Otherwise, come anytime!

FUEL & SUPPLIES:

Your best bet is to stock up before you leave home, in Hervey Bay or Rockhampton on the way up or at Mackay if you decide to duck into town. Finch Hatton has a service station and general store, but being a small town, it's advised to check operating hours before you rock up.

TRIP STANDARD:

Tracks are Rated from A to E, with A meaning only suited to vehicles with an extreme level of off-road modification and E meaning perfectly suited to all types of 4WD vehicles. In dry conditions this trip is rated D. Most of the tracks are driveable in standard form if conditions are dry. However, during the wet summer months the clay-based tracks can become extremely slippery.

TRIP TIME OF YEAR

May

RESTRICTIONS AND PERMITS:

Eungella Dam camping fees (\$8 per couple per night) can be paid at the self-registration station near the shower block upon your arrival. Pets are permitted at Eungella Dam and nearby state forests. Collecting wood for fires is also permitted in most areas, though timber is scarce at Eungella Dam so it's advised to bring your own or collect it on the way in. Fishing permits are required to fish in Eungella Dam which can be purchased prior from the Mackay information centre. E-permits need to be purchased prior to your arrival for camping at the Crediton Hall, Denham Range and The Diggings camping areas.

CONTACTS:

MACKAY VISITOR INFORMATION CENTRE

PH: 1300 130 001

W: www.mackayregion.com

SUNWATER

PH: 13 15 89

W: www.sunwater.com.au

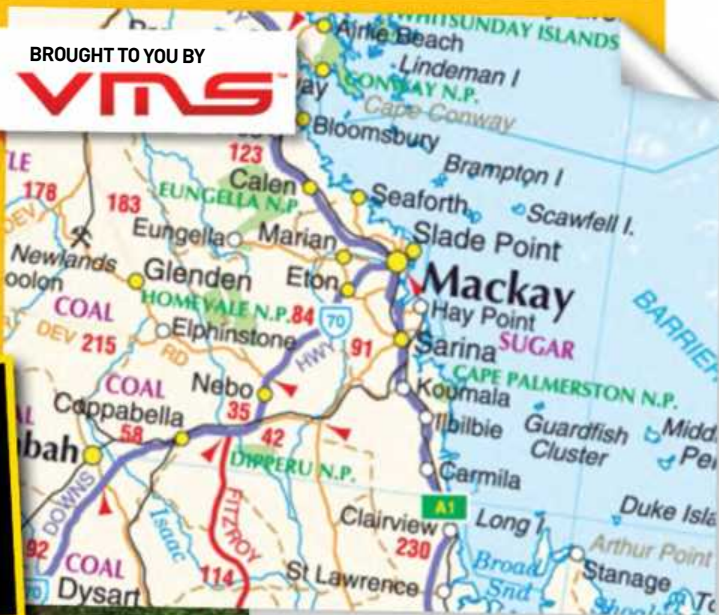
QUEENSLAND PARKS

PH: 13 QGOV (13 74 68)

W: www.qld.gov.au/camping

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OLD'S TOUGHEST 4WD TRACKS

If you love lifting a wheel as much as we do, you can't miss next issue's DVD, where Graham and Shauno tackle the gnarly Glasshouse Mountains just outside of Brisbane. This DVD's chock full of wicked drives, crazy recoveries and plenty more bush mechanic tricks.

4WD Action 244 - on sale 24th December (just in time so you can kick back over Christmas and enjoy the show).

And seriously, why drive all the way up north to land your first barra when you can hook one only a day's drive from Brisbane?

WHAT TO DO IF THE KIDS GET BORED

If the fish aren't biting and the kids want to get out of the truck to stretch their legs, you can always tackle some of the walking tracks over in the Eungella National Park. With trails ranging from 250m-8km in length, there is bound to be something for everyone!

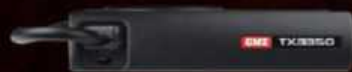


THE COUNTRY IS IN YOUR HANDS

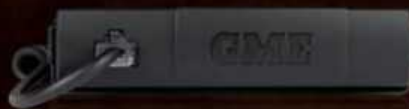


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CROSSING OVER



WORDS BY DANIEL REBER, PHOTOGRAPHY BY WES WHITWORTH →

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- **Aftermarket Dana 44 front housing**
- **37x12.5R17 Procomp Extreme tyres**

It's funny how we're such creatures of habit isn't it? I mean, if your first 4WD was a Nissan, odds are you're going to be a 'Nissan guy' for all eternity. The same goes with any make and model though; it really comes down to what you know, what you wheel and what you love. It'd take some serious leverage to pry any of us away from our beloved brands, but sometimes, just sometimes something comes along that has you looking at the other camp with green eyes.

Joe Pennisi, a primary producer in QLD's tropical north has been a Toyota man his whole life and when you live on the land, how could you not be? They don't call it Cruiser country for no reason - they're tried tested and get the jobs done. When by chance, Joe happened across a custom JK featured in issue 222 of 4WD Action, something stirred inside him. "I looked at that Jeep and suddenly found myself wiping drool off my chin, I really wanted one," says Joe. "To back that up, two issues later I saw 'The Smurf', a blue JK, build by Double Black Offroad featured in the mag and that just ignited everything that followed. I loved the look, the out of the box ability and the overall fact that you don't see them a lot up here - they aren't dime a dozen. I came from a life of Toyotas but this one thing made me go Jeep." The

next day Joe made a phone call to Bill at Double Black Offroad to go over a game plan to build a tough as nails JK and what happened after that came thick and fast.

"I told Bill what I was planning, and after a long chat about my options, he left me with one more task - to actually buy the Jeep," explains Joe. "So I did - the very next day." Now, most of us take our time on a build, unsure of how we want it to ultimately end up we pace ourselves until the recipe becomes clear. Not Joe. Joe and Bill had the plan worked out to every last nut and bolt, so when the dealer handed Joe the keys to his new Jeep, Joe handed them straight back and put the JK on a truck from Townsville, to Double Black Offroad in Victoria. Committed? You betcha. 



EXTERIOR

- VPR Ultima front bar and Smittybilt X20 amphibious winch
- Smittybilt XRC Gen II rear bar
- Smittybilt steel rock sliders
- Rigid Industries 50in LED light bar
- AEV snorkel
- Bushwacker flat flares

"I based the look of the Jeep heavily off two that'd featured in 4WD Action before; a white JK in issue 222 and Double Black Offroad's 'The Smurf' from issue 224 - both of these JKs where the source of my conversion to the Jeep side," laughs Joe. Joe added the Smittybilt barwork because of the unique styling and then went a step further, detail colour-coding the front bar. The Smittybilt sliders are a unique design, in that they wrap right up alongside the sills, offering even more protection than just a regular, underslung style slider.



You've got to admire the Jeep aftermarket - if you need the part, there's one out there like this mint LED light bar bracket





***THIS JEEP WAS
DOUBLE LOCKED
BEFORE ITS FIRST
SCHEDULED SERVICE***



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- Fox Racing 2.0 steering stabiliser
- Synergy upper control arms front and rear
- Synergy lower control arms front and rear
- Synergy chromoly tie rod
- Synergy extended brake lines
- TeraFlex hydraulic bump stops
- Synergy high-steer drag link
- Procomp Vapor 17x9 alloy wheels
- 37x12.5R17 Procomp Extreme MT tyres

"I really wanted a suspension set up that could do it all," says Joe. "Although that phrase gets thrown around a lot, in my experience there's usually a big compromise with any hardcore rig but to be honest I could, and am planning to take the JK to the Cape and across the Gulf this season and I now have a beaut handling 4WD to do it in." Joe's stoked with how the JK now handles the road as well as the seriously tough tracks up around Townsville, and it's all thanks to a well-designed and thought out suspension kit that's been built to do both jobs perfectly.

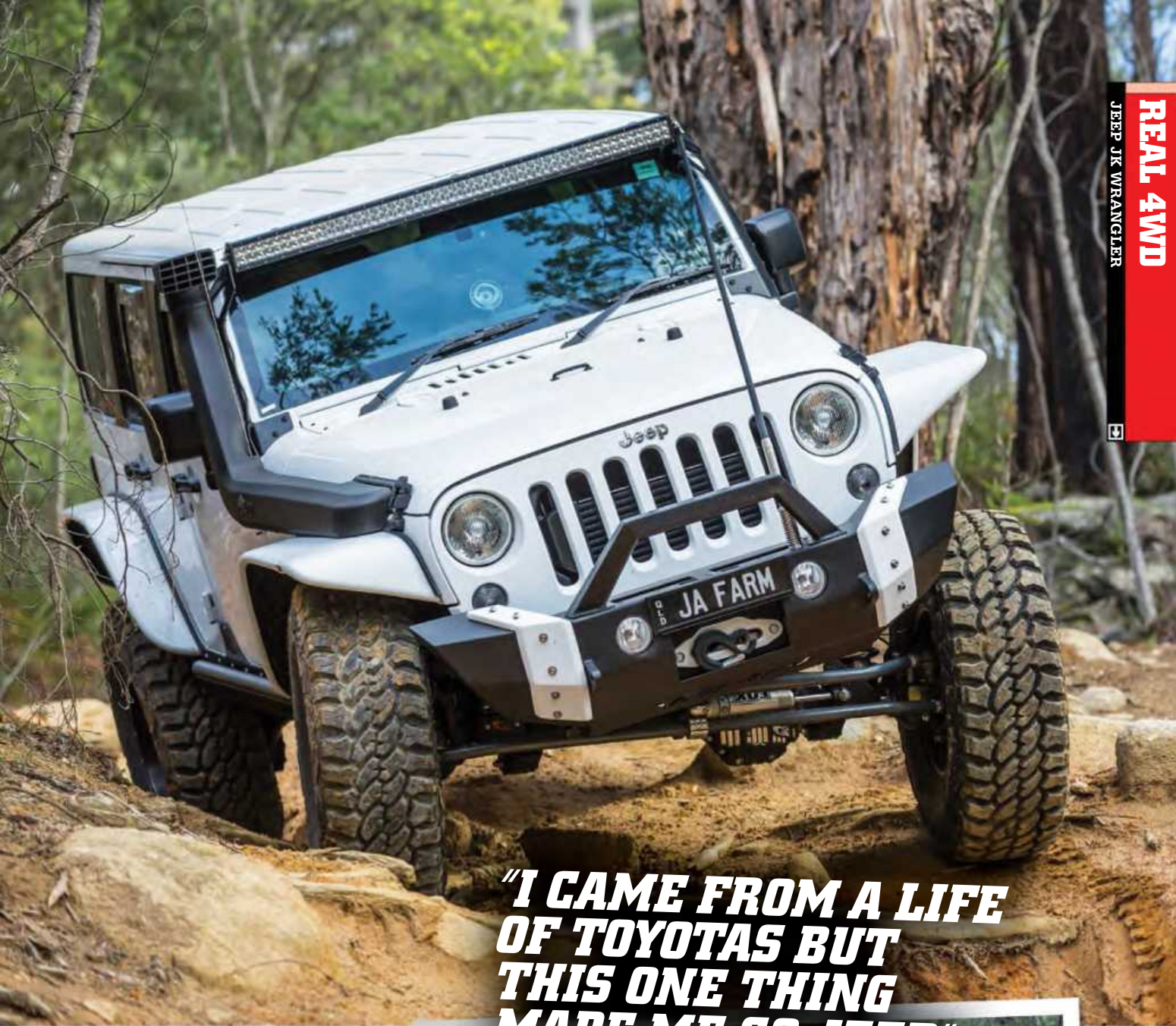


ENGINE & DRIVELINE

- JE Reel tailshaft
- Complete G2 Dana 44 front housing – HD upgrade
- Front and rear ARB Airlockers
- 4.88 diff gears front and rear
- TerraFlex big brake kit

"I went all the way with the driveline on the JK," says Joe. "After reading an article on JKs in 4WD Action, I identified the weak points and set about fixing or replacing them one by one." After identifying the weak rear tailshaft and front Dana 60, I ordered a JE Reel tailshaft and complete G2 Dana 44 front housing which carries bigger diameter tubing and stronger 35 spline axles. Basically, it had to be bulletproof – it's 3000km to Double Black Offroad for me to get repairs or parts." When it came to the driveline, Joe didn't stop at the unis, he also fitted a TeraFlex big brake upgrade kit, which included upgraded pads, rotors, and oversized twin piston calipers to really haul the heavier JK up quick.





***"I CAME FROM A LIFE
OF TOYOTAS BUT
THIS ONE THING
MADE ME GO JEEP"***





**IT HAD TO BE
BULLETPROOF
IT'S 3000KM FOR ME
TO GET REPAIRS OR PARTS**

To check out more of the insane Jeeps made by Double Black Offroad and see what they can do for you head to www.doubleblackoffroad.com



RUNDOWN

VEHICLE: 2015 Jeep Wrangler, Sports Unlimited

ENGINE: VM Motori 2.8L common rail diesel

GEARBOX: 5-speed automatic

4WD ACTIVATION: Part time

SUSPENSION: 3in Synergy coils and Fox 2.0 remote res shocks

WHEELS AND TYRES: 17x9 Procomp Vapor rims and 37x12.5R15 Procomp Extreme MT tyres



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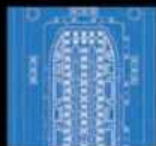


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TEN DAYS IN TASSIE



WORDS BY ELLIOT LEE AND ROBERT GARRAD, PHOTOGRAPHY BY ROBERT GARRAD



A ten day dog-friendly camping
and 4WD trip around Tasmania
taking in the best of the west



Pack your own firewood as in some areas you can't collect it and if you can, it could be damp



Any rain while you're on Saw Back Track means you'll be busting the winch out sooner rather than later

Head west out of Hobart and towards the Mount Field National Park Visitor Centre where you'll need to collect the key, and pay the \$300 deposit, to access Adamsfield Conservation Area.

ADAMSFIELD CONSERVATION AREA

Once you have collected the key, travel west towards Strathgordon. There are two access routes into Adamsfield, we chose access via Clear Hill Road

and the Morley Track; this is not very well signed and might prove to be your first challenge of the trip. Drive past the historic Adamsfield mining settlement, now just a few huts and relics, then over a water crossing to access a large campground on the left hand side of the track. There is a large hut at the campground and fires are permitted. You'll need a good nights sleep before you tackle the insane Saw Back Track.

After a solid brekky head back to the main road to access the start of the Saw Back Track. This track requires a key from the Mount Field National Park and is accessed via a locked boom gate. The Saw Back Track is a mixture of mud and clay, and straight away we had to air down, settling on 18psi.

The first part of the track is the most challenging. It's tight and rutted with steep sections and deep bog holes. The deep ruts and slippery clay on one incline proved too difficult for the lead vehicle which was winched out of the ruts using one of the many nearby trees. The track



itself can be overgrown too, so care should be taken to avoid damage to your vehicle.

The track opens up in a few sections, one of which made for a fantastic spot for lunch and gives you a chance to let the dogs out for a run. Continuing on the track, we encountered one very steep descent before returning to the campsite. The track ends with loose gravel and the harsh rock drop offs will test your nerves and your wheel placement.

There are some interesting boulder formations to check out and there is also a mining quarry to explore at the end of the track.

Once we had completed the track we returned to the campsite for another night at Adamsfield. Our next day was spent helping out some other campers who had flooded their 2WD vehicle in a water crossing. We eventually towed it back to the main road, then dropped the vehicle occupants off at Mount Field National Park as there is

no phone reception at Adamsfield – a reminder to not venture out to remote areas when unprepared. We then had a short run back on the main road north west to Laughing Jack Lagoon, where you'll find your next overnight stop.

Laughing Jack Lagoon is a very peaceful spot to camp and was particularly beautiful at first light with a mist over the lagoon. To camp near the Lagoon with fishing equipment in your vehicle, even if you are not using it, requires a fishing permit or penalties may apply.

HENTY DUNES

Head next to the Henty Dunes, near Strahan. It's definitely a good idea to stop in at Zeehan en-route for supplies and fuel. To access the Henty Dunes follow the Zeehan – Strahan Road, crossing the Henty River Bridge and look for the unmarked turn off on the right hand side, at the end of the



There's nothing better than taking your four-legged friend along for a trip



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VIEWS IF YOU'RE AN
EXPERIENCED
4WDER**



A reminder to check the depth of any boghole – this one had us stuck for hours as we winched out



After a massive day on the tracks, a short kip will get you going again



You can grab a perfect sunset shot on the dunes at Ocean Beach, just note you can't drive on the dunes in Pieman Conservation Area

We had lunch in Strahan before heading back to camp and then driving up into the dunes in the afternoon to grab some amazing photos as dusk fell.

PIEMAN CONSERVATION AREA

The next morning point the trucks towards Granville Harbour, which is the access point to the Pieman Conservation Area where you can tackle one of the two main access tracks. The Farm Track is spectacular with beach driving, coastal vegetation and the massive granite boulders called Conical Rocks. Tackle the inland track if you're keen to battle through even more challenging 4WDing.

Both tracks have deep bog holes and muddy sections and heavy rainfall can make the tracks impassible. There are also numerous beach river crossings, which may be challenging should weather conditions change.

The first overnight stop is just before Stingray Beach and a water crossing. This is a small campsite with no facilities, suitable for a night or two. It is a great place to relax and enjoy the peace and tranquility of this region.

Following the Farm Track to Pieman Heads takes in numerous beach river crossings, bog holes and ruts. Some of the bog holes are very deep and should be approached with care. Like our lead vehicle, decide to enter one bog hole and you could be stuck the same boggy spot for over two hours as we tried to winch off the other vehicle. After lots of digging and two broken snatch straps the savior was a sawn off tree stump which we wedged the second vehicle against to anchor the vehicle to the spot. There are limited winching options along this route; however most bog holes can be driven around in the drier weather. It should be noted

straight section of road. Lower your tyre pressures and slam it down a gear as you drop straight into the steep dunes. The campsite is approximately one kilometre in, beside the Henty River. This is a nice quiet campsite suitable for kayaking, fishing and swimming. You can access some awesome dune driving and Ocean Beach from the campsite. Driving on the dunes may require a lower tyre pressure than on the track; we lowered our tyres down to 12 psi. Driving on Ocean Beach is also fantastic, but you need to be wary of quick sand.

We stayed there for one night and then headed towards Macquarie Heads via a 20km drive along Ocean Beach. You need to be aware of the tide times for beach driving and ensure that as a minimum you

are not driving on the beach at high tide, or an hour either side of high. The entrance onto Ocean Beach from the Henty River was extremely saturated so plan to walk this section to locate the quick sand and areas to avoid before you tackle it in your vehicle. Driving on sand requires caution but also keeping the revs up in a higher gear to maintain momentum. You also need to be cautious of washouts and submerged logs on the beach.

Booking is not required for Macquarie Heads campground, although a small fee of \$6.00 is payable to the caretaker. There are a number of large grassed campsites to choose from and the town of Strahan is only 16km away. There are a huge amount of local tracks to explore and there is also fantastic beach fishing.





**YOU'LL NEED A
GOOD NIGHTS
SLEEP BEFORE
YOU TACKLE THE
INSANE SAW
BACK TRACK**



FACT FILE

WHERE

Heading out of Hobart to Adamsfield Conservation Area, then onto Laughing Jack Lagoon, further west to Henty Dunes and Macquarie Heads and then onto the Pieman Heads, before heading home via Lake Burbury.

INFORMATION

The weather on the western side of Tasmania is unpredictable so it's best to be prepared for all four seasons any time of year. The West Coast is rugged and wild and has plenty to offer with the scenery ranging from enclosed tracks surrounded by ferns to open beach tracks running parallel to the ocean.

Driving at night is not recommended due to the abundant wildlife that calls the area home.

CAMPING

ADAMSFIELD: Large camping area. No fee. Camping in designated camp area only. Access to the camp area does require a 4WD due to a small water crossing to access the site.

LAUGHING JACK LAGOON: bush camping on the banks of the lake. Small individual campsites; not suitable for caravans. No fee.

HENTY DUNES: Bush camping in designated camp spots on the side of the Henty River. Number of camping sites available. No fee.

MACQUARIE HEADS: Located at the Northern end of Macquarie Heads in Strahan; accessed via Ocean Beach or a gravel road. Unpowered sites for \$6.00 payable to the on-site caretaker. Good grassed sites next to the harbour with a public toilet available. Bring your own firewood and water.

PIEMAN HEADS: Campsite One (just before Stingray Beach). Small camping area. No fee. Campsite Two (Pieman Heads) larger campsite behind the beach in the dunes.

LAKE BURBURY: Small fee payable to the caretaker. Large campground with a choice of sites.

All camping sites on this trip are dog-friendly.

WHAT TO TAKE

Food and water for the duration of your trip, plus extra in case of emergency. Recovery gear including a recovery kit, MaxTrax, shovel and winch if you're travelling solo. Lockers are necessary for many tracks and an air compressor is useful to vary the pressure of your tyres. Spares, firewood and a chainsaw should also be packed.

BEST TIME TO TRAVEL


There is no perfect time to travel this area as the weather is so unpredictable on the West Coast. Summer months bring warmer temperatures; however it can still rain for days at a time if you are unlucky. We went at Easter and enjoyed an amazing week of sunshine and warm temperatures.

that it is illegal to drive on the dunes in the Pieman Conservation Area.

Following the Farm Track further, we stopped for our next overnighter at Pieman Heads. This is a large camping area next to the Pieman River and is the perfect spot to camp for a few nights. The Pieman River is renowned for its excellent salmon fishing.

The tabletop behind the

campground is a steep ascent/descent but only attempt to reach the spectacular 360° views if you're an experienced 4WDer.

Leaving the Pieman Conservation Area, we headed East to Lake Burbury. There is a picturesque campsite at Lake Burbury with numerous sites and basic amenities; a small fee is payable and it's an absolutely beautiful spot to end your West Coast trip. 

FUEL AND SUPPLIES

Fuel, supplies and mechanical repairs are readily available at the main towns en-route to the campsites except for Adamsfield and Pieman Heads. Main supply areas for this route being New Norfolk, Queenstown, Strahan and Zeehan.

TRIP STANDARD

Trips are rated A through to E grade, with A meaning only suitable for vehicles with an extreme level of off-road modifications, and E meaning suitable for all types of 4WDs. The Saw Back Track is for experienced 4WDers with high clearance vehicles; it is narrow and overgrown with deep ruts and heavy clay and there is the potential for panel damage. Rated A grade. Granville Harbour to Pieman Heads is also A grade – track conditions go from sand to mud; some bog holes can be avoided. Always enter bog holes with caution as there is little to winch off in some parts of the track. Be wary of quick sand when beach driving.

Other tracks on the trip range from E to C grade.

MAPS AND GUIDES

Adamsfield – collect map and key from Mount Field National Park. Off-Road Tasmania Guide Book by Chris Boden can be purchased locally. Camp Australia Wide 8.

RESTRICTIONS AND PERMITS

Book ahead for access to Adamsfield and the Saw Back Track as the number of vehicles travelling the track daily is limited. There is a \$300 deposit for the boom gate into Adamsfield (vehicle registration numbers will be noted). The Saw Back Track is closed annually from 1st June to 1st October to prevent damage to the mudstone soils. Pieman - no camper trailers are permitted beyond Campsite One at Stingray Beach.

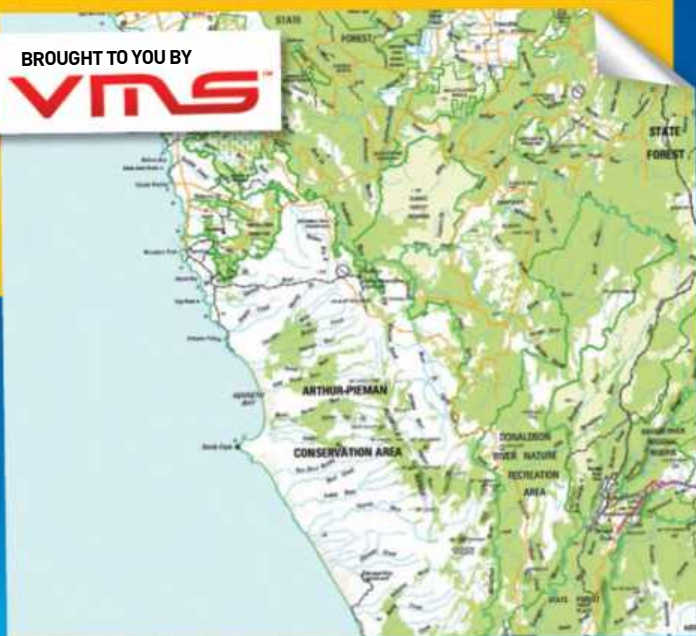
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Righto, let's start with the obvious. Dedicated fridge cooler bags run at around \$120-\$150, so they aren't the cheapest upgrade out there, but they're worth their weight in gold. The idea behind them is to keep direct sunlight away from the fridge, and to also keep the cool temperatures insulated inside the fridge. Get one that's specific to your model and it will also protect your fridge from knocks and scrapes - bonus



It might not be the classiest thing in the world, but a DIY fridge cover made from a cheap parts-store windscreen cover actually works surprisingly well at keeping fridge temperatures down. It's never going to rival a proper fridge bag for insulation, but the material's designed to reflect sunlight - and that's half the battle




WORDS BY BRENDAN SEYMOUR
PHOTOGRAPHY BY WES WHITWORTH

COLD AS ICE

There's nothing better than having your fridge running beautifully in the back of your 4WD. Here's a couple of easy tricks to help it run like a champ

If you had to pinpoint the 4WD accessories that have made the biggest difference to how we head offroad in the past decade or two, without a doubt on the top of the list would be the mighty 12v fridge. Having a fridge in the back of your 4WD is a deadset game-changer. It means you're not a slave to the availability of ice. It allows you to head bush for longer with plenty of good tucker. And there really

is nothing like pulling into camp at night and grabbing a coldie out of the fridge that's been humming along at 0°C.

But just because you've invested in a fridge, doesn't mean it'll always work flawlessly in any situation. Fridges work their guts out in hot climates, and can even struggle when the sun's blazing away. Here's a couple of easy ideas to help your fridge run cooler for longer for buggin'-all investment. 

Moving further down the 'don't wanna spend much money' line, is the simplest thing you can ever do to help your fridge - park in the shade! We've tested it, and proven that a vehicle parked in the shade with the windows down can be 25°C cooler than one parked in the sun with the window up. That's a massive difference in ambient temperatures, and we've seen it make the difference between a fridge that cycles on and off, easily holding 0°C, and one that's running flat out, struggling to stick to 4°C



The less you open your fridge, the more it has an ability to keep the contents cool. To that end, it's a seriously good idea to still run an esky wherever possible. Throw cold drinks in it at the beginning of the day that have been chilled in the fridge over-night, and even without ice they'll keep nice and cool right through til the arvo. Then, instead of opening the fridge every half hour for a bottle of water or a can of Coke, you can leave the fridge well alone to do its thing



Nothing stops a fridge running at its best like incorrect wiring. Fridges don't draw massive amounts of current – around 5A on startup and settling to anywhere between 0.5 and 3A continuous – but that still needs some proper wiring to make it run properly. At a minimum you need to be looking for 6mm twin-core, especially if the wiring is running all the way from the engine bay to the rear of the vehicle



Ever melted a fridge plug and wondered why? Hours of shaking and rattling around in the back of a 4WD can rattle just about any cigarette socket loose. Merit-style plugs are better, as are the twist-lock ciggy plugs, but they still have the potential to lose proper contact with the socket. Hard-wiring a fridge cable means you never, ever have to think about whether it's going to rattle loose again



12v fridges run a condenser as a heat-exchange – the same principal as your radiator, or the condenser on the back of your fridge at home. To work efficiently, the condenser needs proper airflow to extract heat away from the cooling fins. Chocking the back of the vehicle full of gear is natural, but it's hurting how your fridge runs. Do your best to leave space around the fridge – or for the ultimate, build yourself a DIY fridge cage like this one. As an added bonus, it'll make it a lot easier to slide the fridge in and out too!



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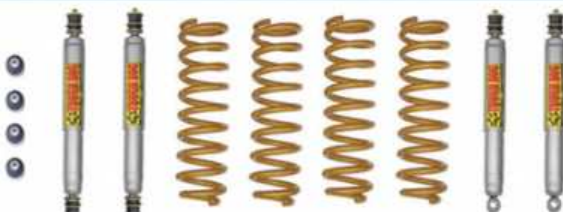
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BILSTEIN SHOCKS

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GET MORE LIFE OUT OF YOUR TAILSHAFT



WORDS BY ALLEN HODGES, PHOTOGRAPHY BY
ROB CAMERIERE AND JOCK McDONALD

Simple tips to maximise your driveline's longevity

Most of us know that we have to grease our tailshafts regularly to reduce unwanted failures. But do you know what other maintenance can be done to your tailshaft to extend its life?

When it comes to your 4WD's tailshafts, there are a number of potential weak points we need to keep an eye on. Things like damage to the shaft tube,

movement in diff pinions or gearbox yokes and most of all mud and debris in the universal and slip joints. The good news is, there are plenty of maintenance tricks and upgrades we can do to ensure the reliability of our driveline.

To find out more, we've spoken to Allan McGilvray from Hi Torque one of the industry's experts about upgrades and the importance of proper tailshaft maintenance.



WHAT IS A TAILSHAFT AND WHAT DOES IT DO?

The job of a tailshaft is to transfer drive between two components, such as your transfer case and differentials. Most 4WDs, such as Cruisers and Patrols have what is called a one piece shaft, which are actually two hollow steel tubes joined using a splined slip joint; with a universal joint at each end. Then there are some 4WDs, such as Toyota Hilux's, that have a two piece shaft with a centre bearing in the middle. These are usually in trucks with a longer wheel base.



GENERAL MAINTENANCE

There is one rule that everyone should remember when it comes to maintaining their tailshafts. Grease is your best friend; the more grease the better especially if you do a lot of mud and sand driving. This is because mud and sand can get into the caps of the uni joints and start wearing into the hardening on the uni's bearings and caps, so by cleaning and regreasing your unis after every mud run you will reduce the risk of a uni failing and flogging out your drive shaft flanges.



IS A THICKER TAILSHAFT A GOOD IDEA?

There are a few upgrades around that you can do to make your tailshaft a bit more robust. Things like thicker walled tube and bigger flanges and unis, just to name a couple. These are good ideas in theory but things like heavier walled tubes add more weight to your driveline's rotational mass, and need to be considered carefully. Just think, if you go from say a 2mm thick tube to a 4mm thick tube you are doubling the weight and adding more stress on the unis and pinion bearing. This is due to that extra dynamic force that the extra weight is adding to the rotation of the shaft.



Larger and thicker tubes are an option

WHAT TYPE OF DRIVING STYLES ARE THE HARDEST ON TAILSHAFTS?

Repeatedly dropping the clutch, towing heavy loads, bouncing over obstacles or jerky driving can reduce the life of your tailshafts unis as it shock loads the rollers and can flat spot them over time. Another failure is continually bottoming the shaft out on rocks or steps as it will eventually bend it and possibly snap it.



If you drive like Jock, you will do this

WILL A DENTED TAILSHAFT AFFECT YOUR DRIVELINE?

A large dent in your tailshaft can cause an imbalance and vibration as it may have distorted or bent the tube. If the damage is bad enough, you run larger tyres and are heavy on the accelerator; it is also possible to completely corkscrew your tailshaft, rendering it useless.

Small dents and marks like this won't make a difference



HI TORQUE
PH: 02 9756 3444

WHAT DOES PHASING MEAN?

Phasing on a tailshaft is the alignment of the flanges in a straight line. This is set up so that the flat edges on your shaft's flanges line up from end to end. So if you need to remove your tailshaft to replace unis or grease the slip joint always mark the slip joint, so the marks line back up when you put it back together. If you don't reassemble it in the same phasing as it came apart you can end up with an unwanted driveline vibration.



This is an example of correct phasing, when the eyes of the flange line up

WHAT WILL AN OUT OF BALANCE TAILSHAFT DO TO YOUR DRIVELINE?

A tailshaft is like a tyre (in a way), as it has balancing weights to help it run true. A tailshaft has to be checked to ensure the dynamic balance is right or it will vibrate as you drive along. Tailshaft vibrations can lead to premature uni joint and bearing wear. A good example is, have you ever been out for a wheel at one of your favourite rocky climbs and come home with a vibration up through your feet? If so, it could be that you ground the tailshaft on a rock step at some stage and ripped the weight off it, or you've dented it and thrown it out of balance. Unfortunately, the fix (depending on the damage) usually involves replacing the shaft complete, or at a minimum, having it rebalanced.



Balancing a tailshaft is like balancing a tyre

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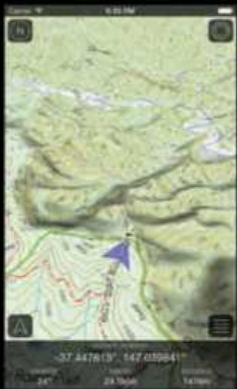
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\$200 TILTING FRIDGE SLIDE

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WILL IT FIT?

If you have drawers in the back of your truck, measure the area around your fridge slide to ensure there is room to fit the tilt mechanism. You will need at least 75mm all the way around. Once you know the area, get your measurements and go get some material. We are putting the slide into the back of a ute, so we had more space to work with.



WORDS BY ALLEN HODGES, PHOTOGRAPHY BY ROB CAMERIERE

One issue that some of us have is our trucks are lifted and the fridge sits on a set of drawers, yet our legs are short. A mod that can overcome this is a tilting fridge slide. This can be made to suit your existing fridge slide and drawers with

minimal welding or fab experience needed.

We're about to show you how to transform your fridge slide into a tilt-able one for under \$200, with just hand tools, a welder and a couple of hours in the shed. We have set it out in six easy to follow steps.



MAKING THE FRAME

Although you can modify your existing slide to make this work, we're going to make one from scratch, so even if you don't already have a slide you will after this. You need two different sizes of angle. So first off make a frame up for the fridge to sit on, for this we are making a basic rectangle frame by cutting notches in lengths of 30mmx30mm angle and bending it into shape. Then cut the sheet of ply to size and fit inside the frame. Secure the ply from underneath with some liquid nails for added strength. Weld on tie down points at either end, so you can secure your fridge in place.

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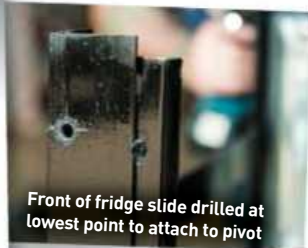


MOUNT THE SLIDES

Sit your frame on a piece of timber and mount your rails so the holes are in the centre of the upright on the frame. Mark and drill the holes in the upright and use tech screws in multiple places to secure as there is limited room inside the rail to fit a nut and bolt. Screwing your slides on like so will secure your timber into place as well. Once the slides are mounted to the frame, you can make a handle out of round bar to allow one handed operation of the locks.



50mmx50mm angle marked and drilled for pivot



Front of fridge slide drilled at lowest point to attach to pivot



MAKING THE TILT

Grab the larger size angle to make your tilt; we have gone for a 50mmx50mm for this as our slides are 45mm high. Cut two pieces of angle 100mm long (these are your pivots) and sit them with upright edge against your slides. Make sure you put a spacer under the slides to enable you to drill through the upright about $\frac{3}{4}$ of the way up. Mark and drill a hole in the bracket $\frac{3}{4}$ of the way up the vertical side of the angle and bolt the rail to the angle (you will have to use tapered Allen head bolts as there is minimal space inside the rails. Bolt the bottom edges to your drawers either with nuts and bolts or larger tech screws as this is your front pivot.



LOCK IT OFF

Using your smaller angle, make a bracket to go at the rear of the fridge slide. This is to attach the cable to for when the fridge is tilted forward. Extend your slide and tilt it forward, then get a mate to hold it in the position that suits your fridge's height (and your height) then attach the cable to suit.



CLIP IT IN

The final step is to fit a lock at the rear of the slide to stop it bouncing around when you're out wheeling. The method we have chosen is a heavy duty ball lock similar to one that holds your pantry door closed at home. This one is on steroids, though. Then using your 30mmx30mm angle make a bracket for the rear of both slides and screw it on the side. Drill and mount the ball clips to the bracket, then line up the receiver with the ball clip and screw it down. Test the alignment by opening and closing it a couple of times.



WHAT WE USED

- 700MM LONG LOCKING FRIDGE SLIDES:** \$78
- 30MMX30MM STEEL ANGLE:** \$21.80 for a 7m length
- 50MMX50MM STEEL ANGLE:** \$37.30 for a 7m length
- TAPERED BOLTS, NUTS AND WASHERS:**
\$10 from your local hardware
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- TECH SCREWS:** \$4 from your local hardware
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this issue with a few nifty features. It has an adjustable rail that extends from 2.5 to 3.6 metres in height, a huge 2.3 metres of clearance between the frames and is set on 4 swivel castors wheels with brakes, enabling you to wheel into position easily over the vehicle. This versatile system can also be utilised on many other applications in the garage or workshop for lifting all types of loads.

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SIX THINGS YOU NEVER KNEW ABOUT...

INJECTOR PUMPS



WORDS BY ALLEN HODGES PHOTOGRAPHY BY 4WD ACTION AND WES WHITWORTH

HOW WELL DO YOU KNOW YOUR DIESEL INJECTOR PUMP?

Four leading diesel experts answer six common injector pump questions

The age old question that gets thrown around is what is the difference between inline and rotary injector pumps compared to common rail injector pumps. When you look at a diesel fuel system, you could be forgiven if you get confused by it. Take an older inline pump, it looks and works like a small engine as it has a crank, rods and pistons that pump fuel to each cylinder. A rotary (distribution pump)

looks and works like a distributor on a petrol engine. Then there are common rail injector pumps, they are just a high pressure pump that delivers the fuel to a rail for distribution through electronically controlled injectors.

In this issue we have called on some of our mates in the diesel industry to answer six of the most common questions that they get asked when it comes to diesel injector pumps and how they work.

WHAT IS AN INJECTOR PUMP AND WHAT DOES IT DO?

Dane Mottley, Denco Diesel

"The role of a diesel inline injection pump is to supply a precisely metered quantity of fuel at high pressure to the injectors in the correct sequence at the correct time, to then inject directly into the cylinder or pre-combustion chamber. The inline pump has one pumping plunger per cylinder and the governor controls the speed by determining the fuel required to meet the load demand. This is the same principle for rotary style pumps but this system only has one pumping plunger that rotates and delivers fuel to all cylinders."



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HOW DOES AN INLINE PUMP WORK?

Andrew Liemroth, Berrima Diesel

"As the name suggests, an inline pump has the fuel lines coming out of it in a straight line. Using a separate diesel fuel pump/plunger unit per cylinder, each plunger is individually calibrated for fuel volume. The plungers are activated, in sequence, by a camshaft and this can be adjusted by a speed regulated advance unit mounted on the drive gear of the injector pump. Fuel pressure varied from the early designs of roughly 3,000PSI up to the later designs at about 17,000PSI. A very complex, large and expensive pump to repair."

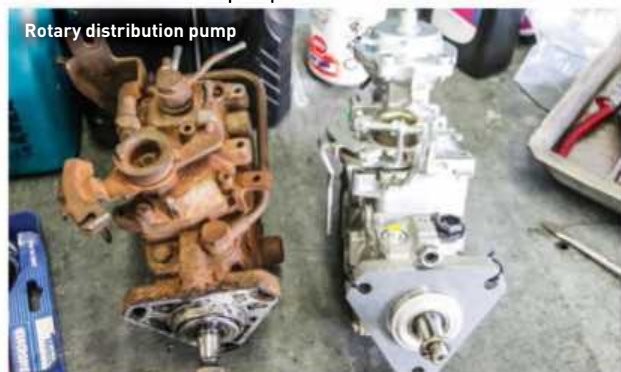


Inline injector pump

HOW DOES A ROTARY/DISTRIBUTOR PUMP WORK?

Andrew Liemroth, Berrima Diesel

"As the name suggests, they can look like a distributor on a petrol engine with the fuel lines coming out in a circular manner. There is one diesel pump/plunger that has its fuel distributed via a rotating head unit as it passes by each fuel line outlet. With a central pump/plunger the calibration of diesel is equal across all cylinders. On later models, fuel pressure was able to be raised above 20,000PSI delivered at engine revs above 5000RPM on smaller modern diesels. Its design allowed the unit to be manufactured faster and make it more compact and cost effective than an inline pump."



Rotary distribution pump

HOW DOES A COMMON RAIL PUMP WORK?

Andrew Bourne, Diesel Care

"High pressure common rail fuel pumps seen in today's 4WDs are usually of radial design with two or three plunger and barrel sets, and an eccentric drive shaft. The shaft is driven by the engine and when turned the eccentric converts rotary motion into linear motion causing the plungers to reciprocate. It's the pumping action of these plungers that forces diesel into the fuel rail."



IS THERE A DIFFERENCE IN RELIABILITY BETWEEN CRD AND MECHANICAL PUMPS?

Andrew Liemroth, Berrima Diesel

"Inline pumps were certainly the most durable. Being lubricated by engine oil pressure and with individual parts adding up to a combined duty, they could be expected to last well beyond 500,000km. Rotary pumps are much more complex than a common rail pump but common rail pumps run at extremely high component pressure. It's expected that these two different pumps could have a service life of roughly 300,000km. That said, these figures are an experienced average life. We have seen inline pumps still operating at 1,000,000km and rotary pumps older than 500,000km."

WHAT IS THE IMPORTANCE OF TIMING AN INJECTOR PUMP?

Tony Martin, MTQ Engine Systems

"Timing on a diesel refers to the time in which the injectors start to add fuel to the cylinder in relation to the start of combustion. As you advance timing the fuel is injected earlier before the piston reaches top dead centre. Advancing timing can have a positive effect on exhaust gas temperatures and performance. Checking and adjusting timing on your older diesel requires the use of special tools and a dial indicator. On older diesels the timing is done static without the engine running. If you advance the timing too far you can have issues with excessive engine rattle. On newer common rail diesel engines the timing is controlled by the ECU and cannot be adjusted without the ability to retune the vehicle or the addition of a module."



Timing a rotary pump

CAN THE AVERAGE JOE WORK ON, TUNE OR EVEN SERVICE THEIR INJECTOR PUMP?

Tony Martin, MTQ Engine Systems

"In my opinion the average Joe can carry out the basic servicing on his common rail vehicle. As for tuning a modern diesel it is very limited as what can be done as they are all ECU controlled. With modern diesels having mass air flow sensors the cleaner you can keep the intake the better your engine will perform. Fuel filters can be a bit more challenging as on some vehicles there is a procedure for bleeding the air out of the fuel system. Changing any of the sensors on the vehicle is best left to the experts as certain sensors need to be recalibrated to suit the vehicle and this requires special tooling."

The servicing of your older pre common rail is the same as above. Keeping the engine oil, air and fuel systems clean is paramount on ensuring your vehicle is performing to its best and lasts. Tuning your diesel can have a detrimental effect on the engine life if you get it wrong, you can have overly high EGTs or have a dramatic reduction in power. As most people are aware rebuilding an engine is not cheap."





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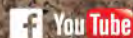
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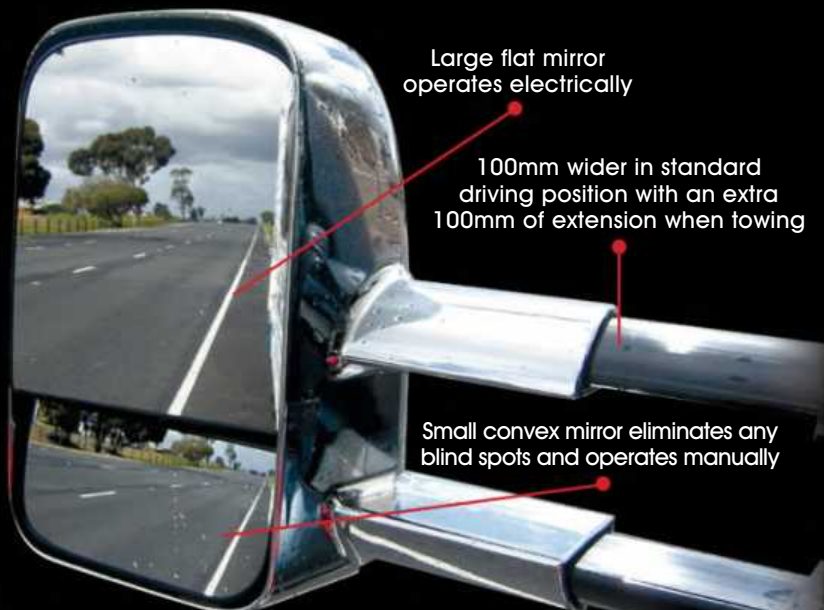
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WATER TEMP GAUGE




Keep an eye on what your cooling system is doing with this super simple water temp gauge install!

If Your 4WD is anything like the trucks in the 4WD Action shed, then your factory water temp gauge doesn't work...or is very inaccurate.

How many times have you given your truck a pump to get up an obstacle and seen your factory temp gauge either flap around like a sock on a clothes line or stay completely still? Especially in vehicles with a bit

of mileage under their belt they can be inaccurate.

In this issue Captain Tightarse will show you how to install a water temp gauge and sender for under \$50 bucks and eliminate the worry of boiling your cooling system. This job can be done with a pair of wire strippers, a soldering iron, a couple of screwdrivers and a multimeter or test light. 



THE GAUGE

There are a whole bunch of gauges available and you can get your hands on an entry level one for around \$30 bucks. Some gauge kits have a hose probe, but if not you can pick up an inline adapter from your local auto store to suit for about \$15-\$20.



FINDING WIRES

To get to the wires you need to splice into, you may need to remove part of your dashboard, or if you're lucky, you can access the wires from underneath the dash. Grab out your multimeter and workshop manual and start digging through wires until you find what you need. For most gauges you will need to find:

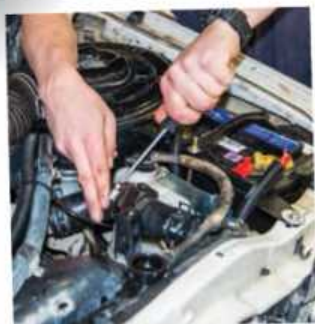
A constant power wire (this can often be found feeding into the fuse block).

An ignition wire (this wire will read 12V on your multimeter when ignition is turned on, and can also be found near the fuse block).

An illumination wire (this wire is if your gauge has two different colours for daytime and night time. You will need to find a wire that picks up power when the lights are turned on.

A ground wire (can be found mounted to bare metal under the dash).

Once you have found the wires you need, separate them so you know which ones to come back to when you run your gauge wiring to them.



RUNNING SENSORS

With your engine cold, drain some of the coolant out into a clean bucket (this is so you can remove your top radiator hose without too much mess). Once the coolant is low enough remove the top hose and mark a line about 6-8 inches from the radiator or where the hose is the straightest. Measure the length of your inline adapter and cut a section out of the hose to suit. (This is so the hose stays the same length with the adapter fitted). Refit both ends of the radiator hose and secure them with the hose clamps. Fit the inline adapter and hose clamps and position the adapter so you have easy access to the sensor port, and so the sensor doesn't foul on nearby components.



WIRING IT UP

Fit the sensor in the hose adapter and run the wiring into the cab through the firewall and up to where you are mounting your gauge. Next, run your gauge wires down to where you are going to join into the existing wiring. Using a set of wire strippers, remove the insulation on the wires and wrap the gauge wire around it. Be careful not to wrap it too tight and break wire strands whilst soldering your joins. Once you have wired everything wrap the joins in electrical tape or where able, fit heat shrink before you solder joins. We were lucky enough to have an old plug from a turbo timer that already had a constant, accessory and ground wire, so we were able to splice into that.



KEEPING IT TIDY

Once you have finished all the wiring, cover it in with electrical conduit and secure into position with some cable ties and then position your gauge in the gauge cup. The boys in blue get a little funny about after market accessories like these, so it'd be worth checking with a local vehicle signatory to ensure where you wish to mount your gauge is both safe and legal. Once everything is wired in, top up the radiator and take your truck for a drive to make sure the gauge is working. Most trucks these days like to sit between 80 and 90 degrees under normal driving conditions, with some modern engines sitting a bit higher.

NEXT ISSUE IS A DIYER'S DREAM

Got a bit of time to kill over the holidays? In issue 244 we show you how to build a sliding solar panel for your roof rack (every 4WD needs one of these!) and pull off a \$50 upgrade that'll spruce up any set of drawers, no matter what you own.



PARTS NEEDED

52MM WATER TEMPERATURE GAUGE KIT: \$30
SENSOR ATTACHMENT FOR TOP RADIATOR HOSE: \$20

- Various wires around the shed
- Soldering Iron
- Solder
- Electrical tape

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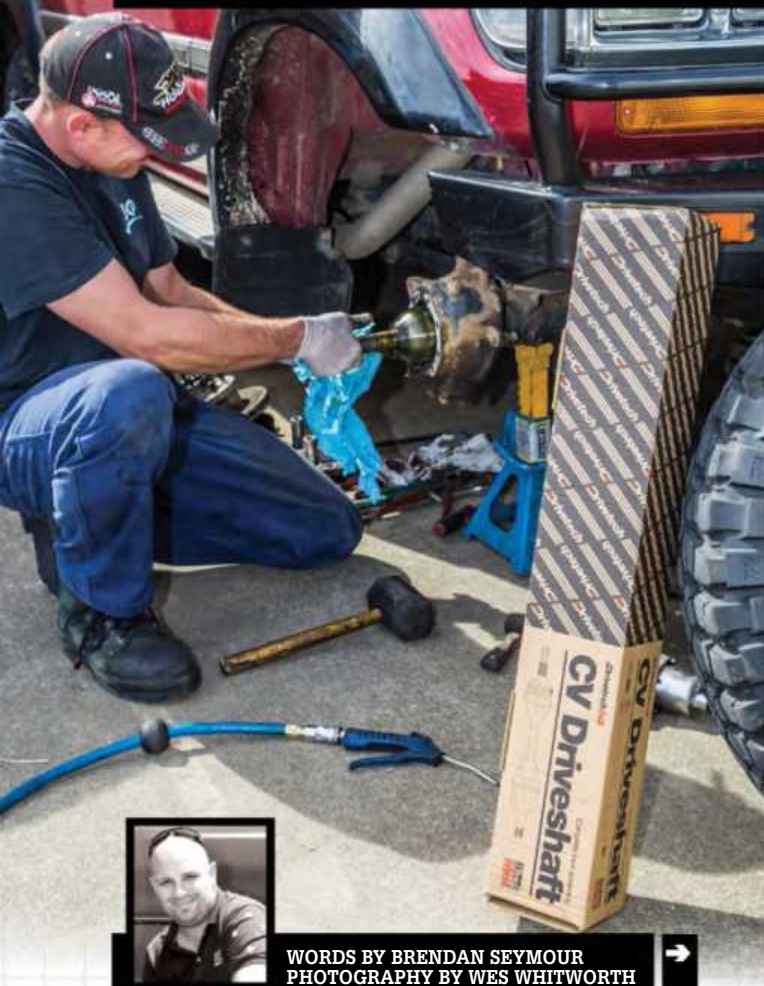
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FIVE-MINUTE INSTANT EXPERT



WORDS BY BRENDAN SEYMOUR
PHOTOGRAPHY BY WES WHITWORTH

CV SWAPS MADE EASY

If you 4WD for long enough, you're bound to break a CV. Here's how to make the replacement a piece of cake

The inherent design of a CV joint makes for a weak-point in your drivetrain. CVs are engineered to be perfectly strong enough for a factory-standard setup, but once you add big tyres, potentially more power in the way of exhausts, chips, tuning and a big

gobful of right boot in a tricky situation off-road, any CV's strength limits are quickly reached.

The good news is CVs aren't hard to swap – as long as you know a few beautiful little tricks to make the job a whole lot easier. Here's how to make any CV swap a pain-free process.

1

First thing's first – the hub or drive flange needs to come off. Undo all the bolts and flat washers, and then take a hammer and gently tap directly on the outer edge of the hub, right next to where each of the cone-washers runs through it. After a couple of taps the shock will pop each cone washer out. **DON'T** lose any! There'll also be a circlip around the CV, holding the hub in place. Remove this with a set of circlip pliers, but wear eye protection because the little buggers can hold some serious tension under load.



2

Now the wheel bearing has to come off. This is where you need a correctly-sized hub socket – some use a 54mm hex nut, some have two little prongs that sit into corresponding holes. Between the two hub nuts will be a folding washer – you'll need to use a screwdriver to bend it up and away from the outer nut before it will undo. Remove the outer nut, the folding washer and the inner nut.



3

Now the brakes can come off. Two typically 17mm or 19mm bolts will undo the brake calliper – move it up out of the way and cable-tie in a safe position, being careful not to twist the brake line. If you haven't done your brakes in a while there might be a lip on the edge of the rotor – if so you'll need a rubber mallet to gently free the calliper. Remove the rotor, being careful not to drop the inner or outer wheel bearings.



4

Now it's time to remove the spindle, which is one of the last things holding the CV in place. On a solid axle 4WD, just undo the bolts holding it and the brake backing cover to the axle, and out she comes. On an IFS 4WD, you'll need to separate the upper and lower balljoints. Remove the split-pins and the castle nut, and use a ball-joint/tie rod splitter. Failing that, put the castle nut on backwards and wind it in so it protects the thread on the balljoint, and give the tie-rod head a couple of good hard whacks with a metal mallet. Whatever you do, don't try and smack the castle-nut – all you'll do is splay out the ball-joint, and you'll never get it undone. A bottle jack between the upper and lower control arms will give you more room to remove the spindle. Pull the broken CV out – it may be bolted to a flange on some IFS diffs.



5

Now's the fun part. **CLEAN!** Get in there and clean absolutely every last bit of old grease out of the inside of the diff, the spindle and the hub. Very carefully feel around in the grease for broken bits of CV and broken needle bearings. Everything needs to come out and be perfectly clean or those metal shavings are going to go straight through your new wheel bearing and CV. Don't skimp on time here – do it once and do it properly.



6

When everything's nice and clean again, give the diff a good packing of clean bearing grease. Most solid-axle CVs will only go onto the housing at a particular point on their rotation – and to make it trickier, you'll find that you need to align the splines on the end of the CV with the splines on the diff, at the same time that you're trying to get the CV bell to go into the housing. It's tricky, but it'll help if you hang your tongue out the side of your mouth, grunt a fair bit and knock a few tools and all the hub nuts off your side-step and into the tub of bearing grease next to you.



HOW DO YOU KNOW IF YOU'VE BROKEN A CV?

The most obvious give-away to a broken CV is typically a loud bang followed by some nasty grinding and clicking noises, and a lack of drive to the front wheels if you don't have a diff lock, or a lack of drive to one wheel if you've got a locker engaged.

To diagnose a broken CV, do the following:

- Have a mate listen as you slowly turn full lock left to right and back again off-road, in 4WD with hubs locked in. You're listening for clicks or knocks, typically in a pretty regular pattern.
- When you believe you've identified a broken CV, jack that side up off the ground and spin the wheel. You'll definitely hear the clicks.
- In the case of an IFS vehicle like a dual-cab ute, Pajero, Prado, etc, you can physically grab the CV (with its two rubber boots, connecting the diff to the wheel) and give it a rock. Any up/down movement is a sign of a broken CV. You can't do this with a solid-axle 4WD like a Patrol or Cruiser as the CV is contained within the diff housing.
- This doesn't automatically discount a damaged diff crown wheel or pinion gear, but it'll be obvious where the knock comes from.

7

Now it's time to start re-assembling, which is just a reverse (and easier) process of disassembly. Just go slow here – take your time, pack plenty of bearing grease into the bearings and the hub, and keep everything clean as you go. Grease on the hub mating face will only prevent the hub from properly sealing. Use a new gasket or some gasket goo to keep the water and mud out of your bearing grease on your next trip off-road. Make sure you tension the wheel bearing up to proper spec – check your owner's manual because it's the only way to do it properly.



CAN I DRIVE ON A BROKEN CV?

Every vehicle is different, and this is just a rough guide, but generally you can limp yourself out of the bush with a broken CV. We've gotta stress that this is a 'get to where you can get spares/a tow truck' scenario, because driving home with millions of bits of broken CV floating around can cause serious damage to spindles, wheel bearings and the like. On solid-axle trucks like Patrols and Cruisers you can remove the CV and all the broken bits, but on IFS 4WDs the wheel bearing and hub assembly uses the CV as a vital component, so you can't remove it and bolt everything together again.

Drivetech 4x4 are a leading developer and distributor of quality 4WD replacement parts and accessories across Australia and New Zealand. They stock a huge range of parts for most popular 4WDs.

To find out more or find the details of your nearest stockist visit www.drivetech4x4.com.au or call 1800 463 646.



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CT169_09



The CoolPower RAPS36 comes with a handy red test button, which means you can check what voltage it has left on the go

NO SECOND BATTERY? NO WORRIES!

**Want instant portable power without having to wire up a second battery?
The WAECO CoolPower RAPS36 is the solution**

There aren't too many people these days who head bush without something that needs power – whether it's a fridge, camp lights, appliances or apps, we're constantly running 12V accessories.

Usually to power all of this you would need a dedicated second battery hardwired in – but from WAECO comes the CoolPower RAPS36 Battery Pack that functions just like a deep cycle auxiliary battery, only portable. This means you can swap it from vehicle to vehicle, take it out on the boat or even keep it at home for blackouts. Not just that – it's been specially strengthened to handle rattling around in the back of your 4WD all day.

It's the second battery for those who don't need the hassle or cost of hardwiring. And when it comes to charging, the CoolPower RAPS36 gives you a number of different options. If you're on the go, you can simply plug it in to your vehicle's 12V socket. If you're at camp you can give it a bit of extra juice by hooking up the positive and negative terminals to your 4WD's starter battery.

Unlike most car batteries, the

WAECO CoolPower can charge at very high rates without damage – this is thanks largely to the way its AGM deep cycle cells spread and hold voltage without leaking. Best of all, thanks to the CoolPower's extra strong shell, it can work upright, sideways – even upside down – and is guaranteed not to leak.



Weighing just under 14kg, the CoolPower RAPS36 comes with an in-built handle that makes it easy to swap it between your 4WD, boat, caravan, trailer, home and more

DOUBLE THE POWER!

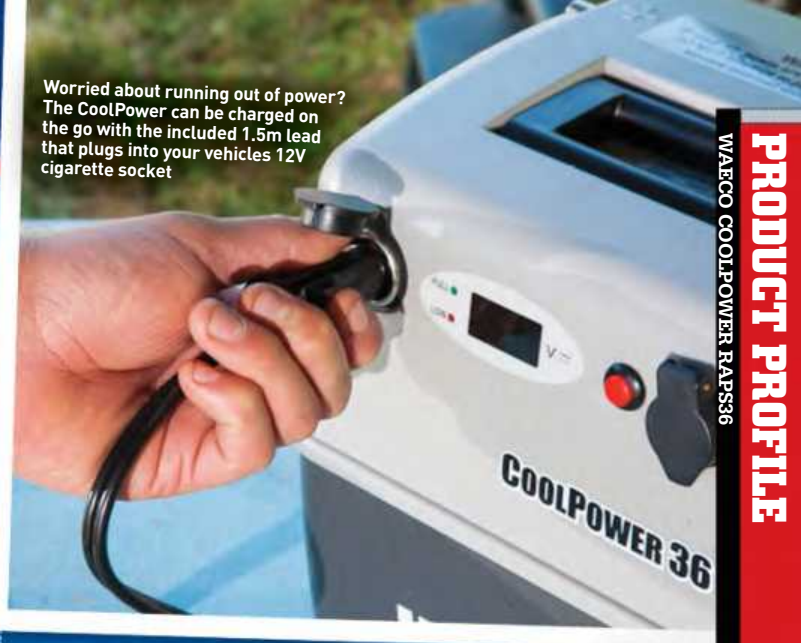
If you're a serious tourer it's pretty likely that you'll want to run more than a single fridge – things like camp lights, inverters, hot water systems and other camp accessories – right? Well WAECO have the solution for you. Compatible with every CoolPower RAPS36 is the RAPS72 Kit that allows you to link up two CoolPowers for extra power.

The kit has everything you need including a sturdy powder coated steel cradle and all the leads you need.



YOUR 12V WINGMAN

On a recent DVD trip, Shaun ran into some 12V problems when his hard-wired auxiliary battery running his fridge stopped charging. Without being able to fix the problem until he hit the next town, he simply plugged his fridge into the CoolPower RAPS36 and in the process saved almost \$200 worth of groceries!



Worried about running out of power? The CoolPower can be charged on the go with the included 1.5m lead that plugs into your vehicles 12V cigarette socket

THE SPECS

AMP HOURS: 36

VOLTAGE: Heavy Duty 12V

BATTERY CELL TYPE: AGM Deep Cycle

DISPLAY: LED / Digital Volts Display

MAXIMUM CHARGING CURRENT: 14.4A

TEST BUTTON: Yes

WEIGHT: 13.6kg

DIMENSIONS: W230 x H245 x D227 mm

OUTPUT SOCKETS: Cigarette & Hella

CHARGING SOCKET: Secure Screw Connection with 1.5m lead

PRICED FROM: \$339

CONTACT

The CoolPower RAPS36 retails from \$339 and is available from WAECO. To find out more head to www.waeco.com.au or call 1800 21 21 21.



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BT-50/Ranger, Rodeo

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2" Leaf / Leaf

L-cruiser 40, 45, 60, 75,

Hilux, MQ Patrol

(4" \$1990)

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2" Strut / Leaf

Nav D40, Hilux 05-on,

Triton 06-on,

Colorado, Ranger PX

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~~\$999~~

D40 Navara

\$1199



2" Strut / Coil

Prado, Pajero 00-on,

Pathfinder 05-on,

200 Series

Check Web

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GU Ute, Landcruiser 76,

78, 79, (4" Check Web)

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Patrol MQ, GQ, GU

Pathfinder R50, R51

Navara D21, D22, D40

Courier, Bravo, B2600

Jackaroo, Rodeo, Dmax,

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4WD Systems #94

STEALTH TACTICS

The Sergeant from Black Series Camper Trailers packs military-like build quality for WAY cheaper than you think



Children are told bedtime stories of its legend. Its codename is whispered around the tracks in hushed tones. Towbars dream of being asked to accompany one on a mission. From Black Series Campers comes the legendary Sergeant Camper Trailer – and it lives up to the hype, and then some. With its black hammer-

tone powder coated finish, tough checker plate body and a Duragal tube-reinforced chassis, the Sergeant is perfect for tackling every wild and exotic destination you can dream of.

You may think a camper trailer this over-built would cost you an arm or a leg – but in fact the Sergeant with independent suspension as standard – comes in at under 10 grand.

12FT DELUXE TENT AS STANDARD

The Sergeant isn't a no-frills powder coated workhorse – it's an oasis of luxury when you're out in the bush. Whether you're travelling by yourself, as a couple, or even bringing the tin lids along, the Sergeant comes standard with Black Series' Deluxe 12ft tent.

Featuring dual skylights, premium canvas (16oz for the tent walls, 18oz for the roof), higher ceilings and added ventilation, it's truly a home away from home.

Fitted with an internal LED light, the Sergeant's box section is completely carpeted



Looking forward to using these? The Sergeant comes with twin recovery shackles on the rear bar



DUAL SHOCKS FOR LONGER LIFE

Underneath the Sergeant is suspension you'd usually find on a camper trailer in much higher price ranges. Whether you're towing hundreds of kays over heavy corrugations, dropping the back end off a steep rock shelf or crossing boulder-filled streams, the Sergeant can handle it thanks to independent coil suspension.

Boasting coil springs as standard, the Sergeant comes with dual shock absorbers per independent arm – that's four shocks protecting not just the trailer, but all of your camping tools inside. Independent suspension on a trailer not only gives you as the driver a soft ride, it also prolongs the life of your camper trailer by lessening the sudden jolts placed on the chassis and contents.



Hiding inside the Sergeant's huge storage box is an on-board 100AH deep cycle battery with 12V sockets and is also equipped with a 50amp Anderson plug

COATED IN OFF-ROAD ARMOUR

The fellas at Black Series know that the Aussie bush can be a rough place. That's why they've purposely overbuilt and over-armoured the Sergeant to withstand every last drop of punishment you can give it. Just check out the LED tail lights above – they've been protected with additional bar work to give you peace of mind when straddling a rut.

Want even more? Check out the bash plate covered water tank underneath! Available as part of the optional accessory pack, this tough as nails water tank has been strengthened to survive rubbing, huge jolts and unexpected rocks.



She's not going anywhere... the Sergeant comes standard with heavy duty 10inch electrical brakes & mechanical handbrake



THE SERGEANT MISSION SPECS

TRAILER SIZE: 7x4ft (2100x1200mm)

WHEELS & TYRES: 15in Sunraysia wheels with 6 stud LandCruiser pattern

SUSPENSION: Independent Coil Sprung with dual shocks

RECOVERY SHACKLES: Twin shackles on rear

CONSTRUCTION: Zincanneal checker plate body, welded and sealed

JERRY CAN HOLDERS: Twin lockable military style jerry can holders

LIGHTS: Large LED fully submersible tail light, number plate and clearance lights

HITCH: Off-road polyblock hitch

WARRANTY: 5 year structural

LOAD CAPACITY (GVM): 1400kg

PRICED FROM: \$8,000

OPTIONS PACK: \$880

Fitted with the optional boat racks, the Sergeant has been over-built to take you to the wildest bush camping spots in the country



CONTACT

Are you ready to accept your mission? Find out more about the Sergeant from Black Series Camper Trailers at www.blackseriescampertrailers.com.au or contact their Sydney, Brisbane and Melbourne showrooms on **1300 CAMPERS**.

From the bush to the beach, the Sergeant's black powder coated frame can withstand any sort of environmental elements





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LIGHTS IN SHINING ARMOUR

From one of the most trusted names in lighting comes the new generation of driving lights – and they're tougher and better than ever

Anyone who reckons all sets of lights are created equal hasn't ever had to push those last couple of hundred kays up a lonely dirt road into camp. When you're ducking and dodging roos and doing your best to keep your panels straight, you want some serious light thrown off the front of your 4WD!


Brenno's been running a set of Lightforce LED 215 driving lights off the front of his 80 Series for a couple of months now, and we figured it was time to take a closer look at them.

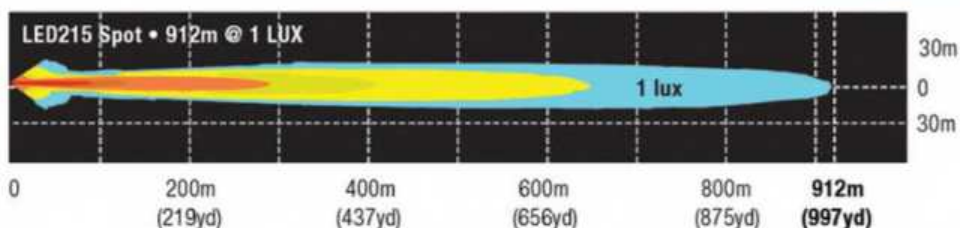
The LED driving light market has exploded in the past 12 months, and Lightforce were one of the original companies at the front of the new technology. It's not hard to see why it's so popular – LED driving lights combine the long-distance ability of HIDs with that incredible flood of light you get from an LED light bar. It's the best of both worlds!

So, the question is, how have they been standing up so far? With a couple of DVD trips under the belt, the LED 215s have handled everything that's been thrown at them. We all know Brenno's not shy when it comes to bog-holes, and these poor lights have gone face-first into some seriously sloppy stuff. We've found it's best to not run the included protective covers on low-range tracks, as this lets the mud drain straight away rather than pool behind the cover. For the touring trips the covers go straight back on.

We won't even bother mentioning that incident with the tree, will we Brenno? You know the one, that tree you swore blind you'd miss on the three-point turn up that tight dead-end track. That was a solid old hit, but apart from one light pointing skywards and needing adjusting back down, no-one would know the difference.

Talking mounting systems, the LED 215s have an absolute beauty. The light, ultra-strong alloy mounting brackets join to the lights with two bolts at either side. One's a pivot, the other an up-down adjustment to make sure you're throwing light down the exact right path.

Okay, so they're not the cheapest lights on the market, but the amount of light and the quality of build of the LED 215s make these a seriously hot contender. These are the sorta lights you could see yourself running on your next three 4WDs over the years, because from what we've seen so far, these are absolute crackers. And if they can stand up to the Brenno test, then there's no doubt they'll go the distance on your truck too! 



At 1 LUX the Lightforce 215 LED's have an impressive reach of 912 metres

THE SPECS

POWER: 108 W

RAW LUMENS: 7794

EFFECTIVE LUMENS: 5013

INPUT VOLTAGE RANGE: 10-36V DC

CURRENT DRAW: 8.7A @ 13.2v

COLOUR TEMPERATURE: 5000K

LED LIFESPAN: 50,000+ hrs

INPUT CABLE LENGTH: 450mm (17.72")

OPERATING TEMPERATURE: -40°C to 63°C (-40°F to 145°F)

WEIGHT INCLUDING BRACKET: 3.3kg (7.3lb)



The signature skipky – the Lightforce LED 215 features a tig welded stainless steel bracket to better withstand the vibrations of heavy corrugations

With a cast aluminium body, military spec membrane and an impact resistant polycarbonate lens, the LED 215 has been designed for maximum lifespan

CONTACT

The Lightforce LED 215 retails for \$690 per light. For more information and to find your nearest stockist head to www.lightforce.com or phone 1800 030 308.

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The System 2 Drawers feature a roller bearing integrated fridge slide to suit most popular compressor fridges

DOUBLE YOUR STORAGE

Turn your 4WD into a top tourer with these tough rear drawers that have enough room for all of your gear – and then some!

Half of the battle with storage in your 4WD isn't fitting your gear in it – it's accessing it when you're out on the tracks. The last thing you want to do after an awesome day's driving is to rustle around in the back of your truck for an hour just to set up camp.

That's where Kincrome come in with their new range of rear storage drawers. Known as the Kincrome Single and Double Drawer Systems, these ready-made stainless steel storage setups double the effective space in your truck by making items at the back more accessible. The

Kincrome Double Drawer System effectively doubles your storage space whilst also adding a fridge slide – making it a versatile upgrade as you add more gear to your 4WD.

Not just that – they also come complete with flush fitting tie down points, a universal zinc coated mounting system and marine carpet throughout. Everything rolls on ultra-heavy duty roller bearings that can take a load of 100kg – so whether you're carting around heaps of recovery gear, tools or a week's worth of food – they'll both roll out as smoothly as possible.

ARE YOUR DRAWERS THIS TOUGH?

- ✓ Stainless steel frame side panels
- ✓ Roller bearing slides with 100kg capacity
- ✓ Galvanised steel frame
- ✓ Marine carpet coated
- ✓ Heavy duty lockable drawer handles

Fully coated with marine carpet, both single and double drawer systems feature heavy duty lockable drawer handles

Kincrome's Drawer System always slide easy thanks to heavy duty roller bearing slides with 100kg capacity

The Double Drawer System comes complete with flush fitting retractable tie down points to stop fridges, crates and eskeys from sliding around when you're out on the tracks

The Single Drawer System is fully stackable – allowing you to build high on one side or low across the rear of your wagon or ute

IN-BUILT FRIDGE SLIDE!

The Kincrome Double Drawer System come standard with a roller bearing fridge slide that features stainless steel flush fitting tie down points. It fits most compressor driven fridges.

DIY INSTALLATION

The Kincrome Drawer System all come with a universal fit zinc coated steel mounting system and mounting bolts that fit most popular large 4WDs. To see if yours will fit note the dimensions below:

SINGLE DRAWER SYSTEM - 1 DRAWER

LOAD CAPACITY: 100kg (per drawer)

WEIGHT: 36.5kg

MEASUREMENTS: 516 x 950 x 245MM

DOUBLE DRAWER SYSTEM - 2 DRAWERS

LOAD CAPACITY: 100kg (per drawer)

WEIGHT: 75kg

MEASUREMENTS: 995 x 950 x 245MM

CONTACT

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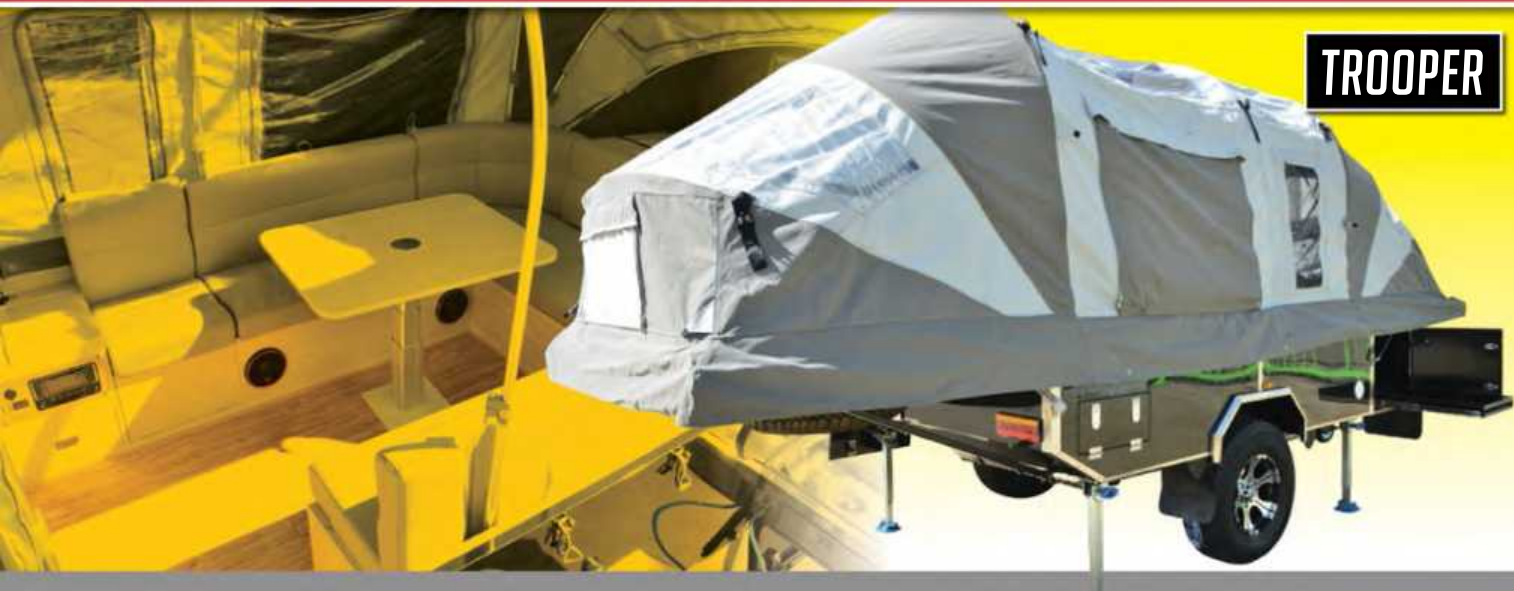
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UNDER BODY



PROTECTION

WORDS BY MICHAEL HAYS, PHOTOGRAPHY BY SUPERIOR ENGINEERING



Is your undercarriage properly protected? Michael Hays shows us how to make your truck unbreakable

With the change in modern 4WD suspension geometry more towards a lower more stable driving platform, it is now more common to see lift heights in the 2-4in range. Whilst this height allows for better on-road handling and more stable off-road and touring, it may also make ALL the suspension and driveline components more susceptible to damage from obstacles. Most factory vehicles come with some types of basic guards and although they are adequate at protecting you from stone damage and light abrasions they often do little in providing adequate protection to your vehicle in off-road situations where rocks, stumps and ruts can easily damage your suspension or expensive driveline components. Sometimes it's not those hardcore trails that do the worst damage, accidents like a busted radiator from a wayward stick in a campground or a bit of roadkill on the highway smashing the 4WD actuator or bending a tie

rod, can be all it takes to wreck a great weekend away.

So what types of guards are available and what should I look for? Ideally look for protection plates that integrate to your vehicle's design and associated components. They should also have carefully positioned holes to allow correct air flow, access for servicing and changing fluids such as oil and also allow easy cleaning of dirt, mud and debris. Any bolts that secure the sections should be recessed or have protection rings to ensure easy removal during use. The materials and the processes used are varied but ideally the armour should be exactly that, a thin section that will deform and be difficult to remove for servicing and can become a waste of money in the long run. By using CAD & FEA analysis software a manufacturer can design in features that not only protect vital components but also transfer energy from impacts safely back into the chassis. Another important design criteria is the ability to allow the vehicle to slide across objects without getting stuck on joins or sharp edges.



WHAT ARE THE MOST COMMON TYPES OF UNDERBODY PROTECTION AVAILABLE?

RADIATOR GUARDS – Protect the front of the vehicle and vital cooling components like radiators and intercoolers from potential damage by deflecting object down and away.

STEERING GUARD – Often incorporated into the radiator or front section guards, vehicle specific steering protection is offered for vehicles where the steering rack and tie rods are susceptible to frontal impact damage.

SUMP GUARD – The most critical area of the engine to protect! Reducing the risk of impact damage that could cause sump damage and oil loss, where even a minor oil leak can cause severe engine damage.

GEAR BOX AND TRANSFER CASES SKID-PLATES – As a minimum most vehicles can benefit from the addition of proper transfer case protection. This is generally one of the lowest sections of the driveline and is very susceptible to impact in ramp-over situations. Gearbox skid plates are mounted beneath the transmission and although less vulnerable than the transfer case they can easily suffer impacts from rocks and objects that can cause expensive damage. Automatic transmissions have oil pans and hydraulic lines that must be protected due to their size and location. The ultimate in underbody protection is something like the Superior Engineering full belly plate, which is made from 6mm steel and not only protects all the transmission components but provides a seamless skid plate to help lower vehicle slide easily over most obstacles.

FRONT SKID-PLATES – A good design will allow the front of the vehicle to slide or climb an obstacle without damage to suspension or steering. On solid-axle vehicles they protect steering and suspension parts (ie. tie rod, draglink, panhard) between the bumper and the differential. For IFS vehicles they protect suspension and subframe components such as steering rack, tie/relay rods, lower control arm mounts. Provision for recovery points and bulbar mounts are essential.

FUEL TANK – With most fuel tanks already having basic thin pressed skins factory installed, it is preferable to either upgrade to a good quality heavy-wall long range tank or at a minimum add an aftermarket tank protection plate.



When it comes to protecting your 4WD, start with the basics and keep adding as you go. As with any suspension components you may need, contact your local 4WD suspension specialist for information on the best parts for your 4WD.



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Recovery kits

Having a fully stocked and properly maintained recovery kit is an essential accessory for any 4WD enthusiast. It's very important to have quick and easy accessibility to all your recovery equipment. Ironman recovery kits are one of the best! Starter



kit \$139 (includes 8000kg Snatch, 2 x 4.7T Bow Shackles, a rated recovery shackle and receiver hitch, Leather Gloves and Storage Bag). Full kit just \$295!

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Ironman's IceCube Fridge/Freezer is first-class in both quality & function. German Danfoss BD-35F compressor. 3-stage battery protection. Dual setting modes. Internal LED and super-tough construction. 30L and bonus insulated tough bag \$680. 40L and bonus insulated tough bag \$750. 50L and bonus insulated tough bag \$850. Do the math! Matching Fridge Slide \$230. **IRONMAN BEATS ARB** - 4WD Action Magazine (No. 228) featured a massive Fridge/Freezer comparison of (six) of the most popular 12V models. With 500 hours of gruelling testing, including outback torture-testing PLUS the work of a group of independent accredited engineers, the Ironman Ice Cube unit performed streaks ahead of EVERY model in the cooling capacity test, AND in the final verdict was awarded 2nd place overall.



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4WD234_27

WHO CONTROLS YOUR ENGINE?

Andrew tells us how to regain control over your ECU



WORDS BY ANDREW LEIMROTH, PHOTOGRAPHY BY 4WD ACTION

Just when you thought you were in control, up steps engine management systems. Heading this all controlling management system is the 'head honcho' Engine Control Unit (ECU). When you put the old 'pedal to the metal' in a modern common-rail diesel there is first a list of checks run by the ECU. It will look at engine RPM, where the pistons are positioned, engine coolant temperature, inlet air temperature, inlet air volume, turbo boost and probably a few other areas as well. Once these algorithms of information are

combined the ECU will direct the engine what to do next. Actually I have painted this up a little and it sounds complex to us, but to an ECU this is day in day out stuff and many times a second it will make a decision.

The problem is that this small portion of time required for the ECU to decide can seem like an eternity if you are trying to get away from the lights or cross an intersection. It may seem like 'turbo lag' but in fact it's just simply 'throttle delay'. As simple as it is this is actually one of the pitfalls of engine management but it can be pretty simply fixed.

There are gadgets on the

market that interplay with throttle signals and one is the PlugNGO unit. Once installed the delayed signal, which can be as delayed as much as 500 – 1000 milliseconds, will be reduced to less than 100 milliseconds or thereabouts. This sharpening of the throttle will mean quicker response off the mark and better snappier throttle in heavy off-road conditions. How many times have you come to a sandy or muddy spot only to put the foot down and sink? On the warranty side, not increasing the actual engine power might give you more peace of mind if modifying

your new diesel 4WD.

There's lots of advice I give everyday but this is one of the most useful tips I can offer, and I find I'm asked this question more and more.

Safe Fourwheeling

Andrew Leimroth

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CAMPING ESSENTIALS



WORDS BY MICHAEL TYRRELL, PHOTOS BY 4WD ACTION



With Christmas just around the corner, Michael Tyrrell and the experts from Bainbridge Technologies offer tips to help you prepare for your annual camping trip!

If a Christmas camping trip is on your agenda, it's time to prepare. At Bainbridge Technologies, we've put our heads together to help make sure your 12V power system is up to scratch, and you're ready to power up the good times.

Completing a few simple checks on your dual battery system, before your summer holiday, can save you from being stuck with a flat battery when you should be relaxing and enjoying the sun, surf and sand.

1. CHECK YOUR STATE OF CHARGE!

Before you head off, make sure your batteries are charged.

Check the health of:

- Your vehicle's starter battery
- The auxiliary battery
- If you have a flooded or "wet cell" battery check its water levels are correct

Make sure your battery keeps the appropriate voltage with a volt meter or multimeter.

One of the easiest ways to see that your batteries are in good working order is to use a smart charger. There are some excellent products on the market. For consumers, we'd recommend something like the heavy-duty Keepower XL-Pro.

This smart charger offers features like a built-in battery indicator so you can easily check to see if your battery needs charging. An integrated boosting system will bring deeply discharged batteries back to life and a technologically advanced microprocessor, will optimise your battery power

and shield your circuits. It's suitable for 12V and 24V batteries from 3Ah to 600Ah.

2. CONNECTIONS AND CABLING

If you've invested in quality cabling, you shouldn't have too many problems. But it always pays to check your connections. Your first port of call is to check for corrosion, dirt or wear and tear on battery terminals. Then move on to check:

- Spade connectors
- Anderson connectors/plugs
- Ring terminals on your batteries or lugs
- Make sure the connections are tight and correctly torqued, this is very important, loose connections can result in power loss and can cause electrical fires
- Check along the length of the cabling to ensure there is no wear and tear or breaks in the cable
- Make sure there's no exposed cabling and check that cables

aren't rubbing on any external items

3. CAN YOU POWER THE GOOD TIMES?

Before you leave, it also pays to work out how much load will be on your 12V system and how long your battery will last before it needs charging. Make a list of devices (like fridges and lights) and work out how many hours per day you will use them for, and how much current they will consume. These calculations will give you a rough idea of how long your power will last. Remember to refer to the manufacturer's

specifications and check the ideal usable capacity of your battery!

If you don't have a dual battery system now is the time to consider one. If you're heading off for some beach camping or to a more remote location, you don't want to get stuck with a flat battery. The Baintech Dual Battery kit is a good starting point. It's an affordable and easy DIY kit that will power up your good times. You can watch a video about dual battery kits here at www.baintech.com.au/dual-battery.

Michael Tyrrell



The Baintech Dual Battery kit is a quick and effective way to get a dual battery system up and running before these holidays



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CLUTCH

TUFF

WORDS BY KIRK BARKER, PHOTOGRAPHY BY ROB CAMERIERE

Kirk Barker devotes his days to bringing us a huge range of track proven products from 4WD1 Pty Ltd. He is a life-long 4WD enthusiast, and a committee member for the 4WD Council.

Your 4WD's transmission clutch is an unsung hero. It converts the turning power of your engine, into the turning motion at your wheels. In simple terms, your clutch consists of two plates between the engine's flywheel and your driveline. When the two plates are forced together, the power from the engine is transferred to the drive wheels. The clutch is "engaged" in this case. When you press the clutch pedal down with your foot, the two plates are forced apart. This interrupts the transfer of power from the engine to the wheels (and) allows you to change gears, or let the engine idle while the vehicle remains stationary.

The bulk of clutch wear occurs while the clutch disc and engine's flywheel are spinning at different speeds.

Kirk takes us through the function, needs and buying factors to consider when thinking about your fourby's next clutch

There is friction material on the clutch plate to help smooth the transition from disengaged to engaged and vice-versa, as well as when you shift up or down gears. Additionally, the greater the engine power or torque, the greater the demand or load on the clutch. The clamp hold, or clamping pressure between the two plates has limitations, as well as a maximum torque or stress rate. It's the same deal when it comes to towing, fitting bigger tyres, or getting stuck in a bog.

Whatever contributes to extra demand on your engine or driveline, translates to increased demand on your clutch.

Your clutch mechanism consists of three main components:


1. The pressure plate
2. The clutch disc
3. The release bearing (throw out bearing)

Increased demand on your clutch, increases the friction,

heat, and force on these components. This leads to unfavourable drive characteristics, premature clutch failure, and (in some cases) can result in damage to your vehicle's engine and driveline. To best deal with this, a heavy-duty version replacement clutch kit is the way to go. These kits essentially provide an increase in clamp load so there is less chance for slippage and unintended movement between the pressure plate and the cover assembly.

The trick is to have a clutch that's heavy-duty enough for your purposes, but won't be a dedicated gym exercise machine for your left leg. Several brands can offer a 20% increase in clamp load while retaining good pedal feel. In other cases (such as the Xtreme Outback brand we sell) an increase of 40% clamp load is available.

Before purchasing it always pays to do your homework. Because of the labour hours involved for installation (or

ascertaining an issue) always buy the best one you can afford. I've had customers in the past that've bought "cheapies" elsewhere only to find that a small parts issue in their kit resulted in another 7-hour labour charge to resolve. That's expensive! In the case of vehicles with single-mass flywheel systems, having the flywheel professionally machined is mandatory in which skipping this job will almost always void any product warranty. Dual-mass flywheels cannot be machined, so a new replacement flywheel is required or one of the more popular dual-mass to single-mass flywheel conversion kits. 



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STOCK-AS-A-ROCK TO TOURING MACHINE



If Graham had a second go at it, this is how he'd build Shorty

WORDS BY GRAHAM CAHILL, PHOTOGRAPHY BY WES WHITWORTH



I've never purchased a new 4WD, every rig I've owned has been pre-loved and to varying extents, already modified by the previous owner. Shorty however, while not new, was perhaps the closest vehicle I've owned to being stock standard. When I handed over the folding stuff the old girl was utterly immaculate with less than 90,000 kms on the clock and pretty much stock as a rock. Over the years that little rig has seen more mods thrown at it than I can count, some good, others not so good. As I was driving back south from our last DVD trip just the other day, I got to thinking, what would I do with Shorty if I could have it back exactly as when I bought it?

Experience has taught me that the very first thing I'd do is whack some quality frontal protection on. I'd also try and incorporate scrub bars into that mix. For sure that would be the very first change I'd make.

Secondly, without doubt I'd install a draw system in the rear. Being a short wheel base and with no need for seats in the rear,

getting rid of them creates more space that you might imagine. Add a full size draw and you have an incredible amount of storage space.

Next up, I'd source a full length roof rack. I reckon I use the roof racks on my GU and on Shorty more than just about anything else. It has to be one of the single most useful additions you can make to a 4WD in my opinion.

So from stock as a rock, the first money I'd throw at a new Shorty would be bar work, roof rack and storage. That would take the rig from being a daily to being something I could confidently use for a great many adventures without feeling the need to do much else. I'd be safe from animal strikes on long runs, have plentiful storage space in the rear and be able to throw a tinny or kayak on the roof. Some pretty simple changes but they open a whole world of new possibilities.

Okay so where to next? This is a hard choice as I feel once the basics are done, there are so many other choices, all pretty equal in their usefulness. However, I think I couldn't go past a dual battery

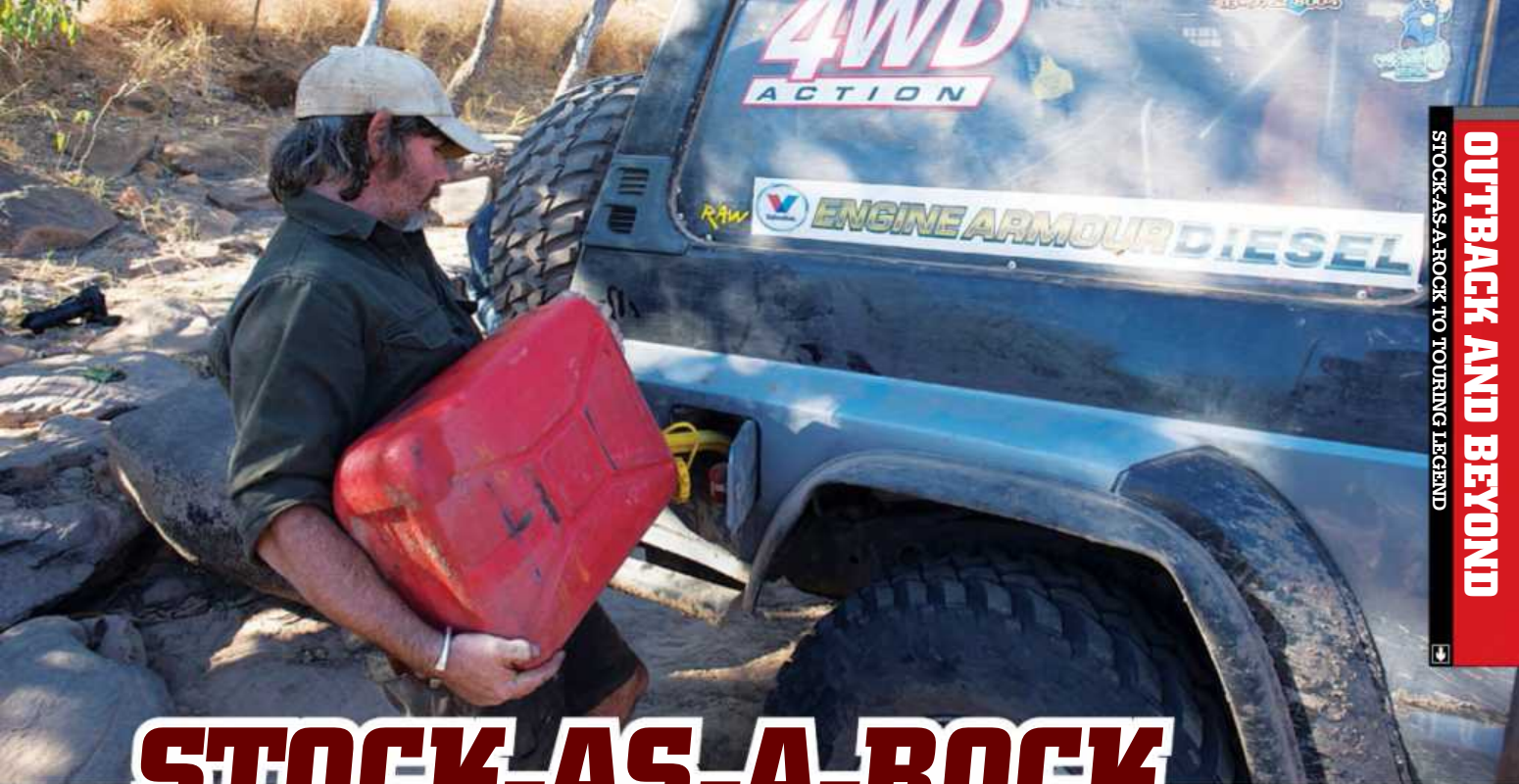
system next for the range of options it then allows me to start adding. Think lighting, fridge, solar, charging, the list is long. Not to mention peace of mind when camped up for a few days.

Righto, after a dual battery system I'd add a stainless snorkel and custom air box. Making any rig breathe better is a good idea and of course it is cheap insurance should you find yourself in deep water, literally. LED lights would then be next. Having good lighting in camp is a luxury that once you have it, you wonder what you did before. Likewise, a 12V fridge would have to be the very next item added. Plumbing a fridge into your rig takes it to a whole new level.

Now I've got essentially a pretty stock rig in terms of running gear, engine and the like but I've added a list of bolt on extras that I honestly believe I could see Australia in comfort and safety with. Of course I'd add recovery gear and compressor plus swag etc etc but in terms of items attached to the 4WD I believe I would have all bases covered. Next my money would be spent on diesel.

I'd run the tyres and suspension the truck came with into the ground until they failed before I'd upgrade. I'd leave an hour earlier to make up for any lack of power not having turbo or exhaust mods might cause and I reckon I would be pretty darn happy with the way I was setup. See I am of the opinion that while there is so much info out there on mods for every make and model under the sun, there is no better way to determine how to modify your 4WD than to use it. By getting in it and doing the kind of driving that you enjoy, you will very quickly learn exactly what it is you need to do to either improve the experience or make it more comfortable.

These are the very first mods I'd make to any new 4WD, your list might possibly be totally different, however I know exactly what I'd do because I know exactly what I would use the rig for and I know the failures a stock vehicle would have. The bottom line I think is before you go adding that radar dish or hot water service to your truck, drive it as often as you can to determine whether it's really necessary.



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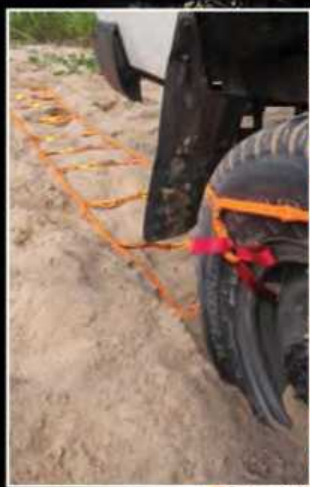
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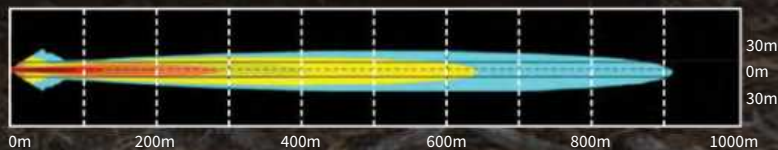
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GOING THE DISTANCE

WORDS BY SHAUN WHALE, PHOTOGRAPHY BY WES WHITWORTH →

What's the key to driving an old 4WD long distances?

I'm sure it will come as no shock to you guys, but we clock up some massive kilometres around the country getting between DVD locations. To be honest I've got no idea exactly how many kilometres I would put down each year, mainly due to the speedo in the 30 hasn't worked for a couple of years, but if I was to guess I would say somewhere between 50,000 – 60,000km. While that's not that many kilometres compared to a lot of people, you do tend to feel them a lot more in an old rattly leaf sprung truck.

Some of the more memorable drives I've done is a quick trip up to the Gulf where we laid down 4,000km in four days to get up to

Lorella Springs to fish for barra in between filming. Another memorable big stint behind the wheel was when I was stuck out at Birdsville because of the floods and drove from Windorah to Sydney (1,700km) in a go, with another driver.

In many cases I enjoy getting to destinations almost as much as I enjoy the destination itself. There's something about hitting the road and chasing white lines especially when you're somewhere in the scrub away from civilisation.

It's quite common for us to throw down a thousand kilometres a day and when you're doing it in an old truck like the Dirty 30 it can really take it out of you. The noise

and the heat (got to get that air con working one day!) combined with a constant fight to keep the vehicle on the road can make you feel like a wind out of you. I think this has become more apparent recently, at least since I've had the 79 to compare the old girl to. Running up big kilometres in a new truck hardly counts!

When it comes to big drives and especially multiple days of big drives my plan is always to wake up early and get a couple of hundred kilometres done before I stop for breakfast. I find there's nobody on the road and the 30 loves that cool morning air. Having broken the back of a big drive well before lunch gives you the feeling that you're

making great time and there's no need to rush. If I get tired I'll pull over and find a nice shady spot to have a quick nap, there's no prizes for pushing yourself beyond your limits. Another thing I like to do is always travel with cold water, it certainly helps having a centre console fridge, instead of energy drinks and soft drinks.

As a bloke that enjoys racking up big kilometres, I'm keen to hear your best tips for big drives! Flick me an email at editorial@4wdaction.com.au if you want to share your long distance driving tips, I'm all ears.

Cheers

Shaun



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▼ BIG BORE ADJUSTABLE SHOCKS

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\$275 each. FREE-DELIVERY

▼ NITRO SHOCKS

Designed with control & comfort in mind. These shocks work well to provide you with a balanced, controlled, sway-free ride. The shock will automatically adjust itself to the road conditions to deliver a softer or firmer ride as the terrain dictates. So when you're around town and want a softer ride, you've got it! When you want your vehicle to perform off-road, you also have the control that you need. Priced competitively and excellent quality, these shocks are perfect for the light to medium 4WDs with leaf-sprung suspension.

\$125 each. FREE-DELIVERY

▼ FOAM-CELL SHOCKS

The winner of 4WD Action magazine's 19-page torture and comparison test. These shocks have a large bore (41mm) and are built for heavy-duty use and for coil-sprung vehicles. The use of a micro-cellular foam insert has produced a new breed of shocks, which are more resistant to fade. Provides more control than your regular 35mm bore product. These Tough Dogs are one of man's best friends.

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▼ COIL SPRINGS

Tough Dog coils are not available for Commodores, Falcons and Pulsars etc. The Tough Dog team's expertise is in 4WD suspension applications. And that is why no other coil spring brand can match the 'intelligent design' of the huge range of coils. They are available to suit may 4WDs from Daihatsu Feroza to mining-spec Toyotas and Nissans.

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▼ EXT STEERING DAMPER

Unlike cars, most 4WDs need a steering damper to control front-end shimmy and/or wide tyres that often seem to have a mind of their own, especially on back roads. The heavy-duty EXT has a larger bore size than most original dampers. This means more control, better handling and less driver fatigue. EXT dampers bolt up to the existing mounts, so fitment is easy.

\$120 each. FREE-DELIVERY

▼ RTC STEERING DAMPER

The award-winning RTC (return-to-centre) steering damper is one of our best-selling products. The coil-over design helps keep the steering centred; no matter the road surface or terrain. For extreme applications, there is a big-bore RTC damper to suit some Landcruisers, Patrols, and F250s.

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▼ LEAF SPRINGS

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CHOOSE FACTS OVER FICTION



4WD Action magazine (#165) featured a 19 page torture and comparison test of the 10 best selling 4WD shocks. Tough Dog shocks "collared" the competition and were awarded 1st place, in a line up that included Koni, Bilstein, Old Man Emu, Ultimate, Raw and TJM.


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Bush tucker has many pleasures, especially when it is crustaceans like these red claw lobsters and the succulent freshwater prawns, Cherabin



Camping in the old days was not easy and our pioneer campers did it hard



WORDS AND PHOTOGRAPHY BY DICK EUSSEN



THE COLONIAL CUISINE

Far from 12V fridges and vacuum sealed meat, the early pioneers prepared their tucker very differently

Today's campers have never had it so good with iceboxes and 4WD fridges keeping their food and drinks from spoiling and ready for a meal, but spare a thought for the early pioneers who charged forth into the outback and the tropics to claim and settle the land or to find their riches in a gold rush.

Most were well armed and woe betides the poor old roo or the succulent plains turkey that was caught up in a rifle sight. It would become fresh meat. Their wives had no choice but to follow their men into the wilderness. But unlike what movies and TV display the pioneering women were not sooks, but tough and resourceful and they were forced to cook over an open fire for want of other options.

Most had camp ovens and other heavy iron cookware. Food was always scarce and had to be guarded against animals. Many settlers befriended the Indigenous people and learned how to obtain food from the bush. It included kangaroos, bandicoots, possums, birds, waterfowl, and reptiles. Others settled near rivers or the sea where fish, yabbies, mussels, pippies, prawns, crabs, lobsters, and other marine creatures

were always available.

Of course settlers also had livestock, cattle, sheep, goats, pigs and fowl, but these were rarely killed in the early stage of settlement as they were needed for breeding. They had to be guarded against dingoes, snakes and other hazards.

It was difficult preventing perishable foods from going off. Canned meats, which appeared in the 1840s, were well utilised but people unknowingly got lead poisoning from it because the tins were sealed with lead. Freshly butchered meat was always welcome. It was preserved by salt brine and smoke curing, both a long forgotten art in itself. Flour was used to make bread, damper, biscuits, and cakes. Flour was often invaded by weevils, but unless they were real bad it would be used up as tossing it out was never in the minds of our pioneer campers - they just ignored the crunchy bits...

Dripping, was the remains of fatty juices left over from meat dishes. It was allowed to set and used like butter on dampers and bread. Bread was made from homemade yeast using potatoes, hops, water, flour and sugar. In some parts of the country settlers made their own flour from local grass seeds,

some using grinding stones they got from Aboriginals to grind the seeds into flour. Others paid and rewarded the local people to grind the flour for them.

Butter was made from milk that was poured into a shallow pan and kept at a low temperature for two to three days. The buttermilk was separated from the fat, which was washed, salted and worked with butter pans until it shaped. If not kept cool the butter would melt into oil, so it had to be kept in a cool place. Storerooms were partly underground, in a handy cave, termite mound, or kept in a drum dug into the ground

and surrounded by thick layers of coal.

That still works if your fridge gives up the ghost. Burn enough coal, dig a hole, layer the bottom with coals, place a tinned drum into it and layer coals all about it and on top. For best results toss a wet hessian rag over it and keep it wet.

Yes, next time you are sitting about a warm campfire enjoying a meal of fresh meat and veggies think back when our pioneer settlers and campers had to do with a feed of roast bird, wallaby, bandicoot or even possum, or better still fresh seafood.



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KID'S CORNER

KIDS, SEND YOUR WORK IN TO:
Captain Chaos
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G'DAY KIDS CAPTAIN CHAOS HERE!

Graham has convinced the guys to come on another adventure. This time he needs your help to drive Project GU through Forster! You can help him by completing this issue's maze. I also added a "Spot the Difference" photo where you need to circle the bits missing from the photo. When you're done head to www.4wdaction.com.au/kidscorner for the answers. Don't forget to let me know how you went with it and get your mum or dad to take a photo of you next to your 4WD or draw me a picture of your favourite 4WD so we can all see what you go bush in! While you have your thinking caps on, don't forget to write me a few words telling me what you go bush in and where you've been! On'ya kids!

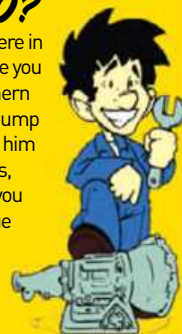
KIDS,
DON'T FORGET
TO SEND IN A PHOTO
OF YOURSELF AND
YOUR 4WD SO THE
WORLD CAN SEE WHO
DOES ALL THESE
AWESOME
DRAWINGS!

Due to the enormous amount of mail I receive, I can no longer send all of your letters back to you, so please take a photo or scan it into your computer before you send it.

ON YA, KIDS!

WHERE'S ORTO?

Keep your eyes peeled! Somewhere in this issue, Orto is hiding. We'll give you a clue - he's checking out a southern state. If you can find where he is, jump onto www.askorto.com and send him an email with your name, address, phone number, and which page you think Orto is. The winner this issue will receive a Thumper air compressor worth \$149 for your mum and dad's 4WD!



COOPER HAINES

HI CAPTAIN CHAOS

My name is Cooper Haines, I am eight years old and I live near Goondiwindi. I love going 4WDing and pig chasing with my dad. The terrain is really hard going. I have drawn you a picture of a 45 Series LandCruiser with 37in tyres and a four inch lift.

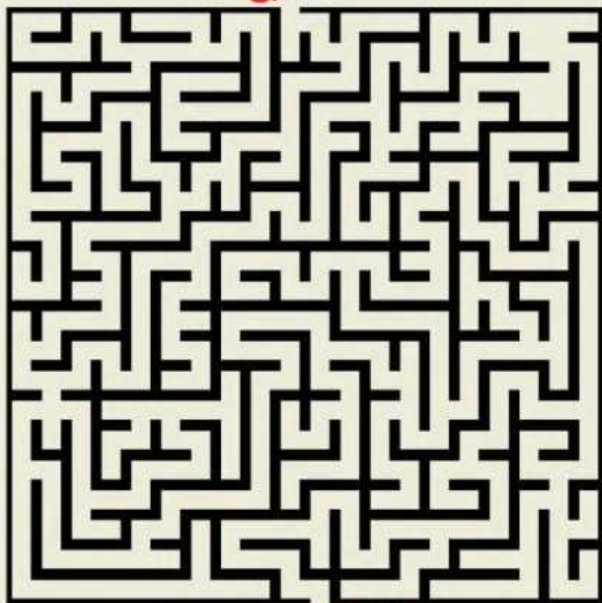
G'day Cooper, it sounds like you're living the dream mate! I bet there are some awesome tracks out that way. That is an absolute ripper of a drawing too, that Cruiser looks like it could go anywhere, and the flames make it look super tough! Good onya' mate

Captain Chaos



CAPTAIN CHAOS'S MAZE

START



FINISH

ANNABELLE SMITH

My name is Annabelle and I am only five months old. This is our new electric Ford Ranger for kids which my Grandparents bought for all us Grandkids to play with when visiting Pappy and Grammy. We also love our big Ford Ranger which has been on many adventures over the last two years, which you can see behind me.

G'day Annabelle, I absolutely love everything about this photo, there's two awesome trucks, and it looks like you're having a lot of fun in your one. I bet it could go on some pretty awesome adventures too. But what I love the most is it looks like we have a young 4WDer in the making eh?

Captain Chaos



FELICITY AND HER PINK UTE

HI CAPTAIN CHAOS

My name is Felicity and I am two years old. This is me in my pink ute with my swag and chair on the roof like daddy and my puppy Peppa along for the ride. I love going in daddy's 4WD, camping and sleeping in my swag.

G'day Felicity, what an awesome truck! I reckon it's pretty well setup, in fact you might even be able to teach Brenno a thing or two about camping setups. I love that Peppa sits in the back of the ute too. Maybe I will see you on the tracks someday with a big ute and Peppa in the back!

Captain Chaos



SPOT THE 10 DIFFERENCES

After you have circled all of the missing bits from the photo, get onto the computer and click on www.4wdaction.com.au/kidscorner.





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NEW PRODUCTS

Got a new and exciting 4WD product that you'd like to tell the world about?

We're always on the hunt for new and exciting 4WD products to review or write about in 4WD Action magazine. It doesn't matter how big or small your product is, if it's new – we want to hear about it and so do Aussie 4WDers!

How do you get your product featured? Simply send us an email with a brief description and good quality image of your product to products@4wdaction.com.au.

THE ULTIMATE PORTABLE FRIDGE & FREEZER

From Aussie Batteries & Solar comes the Giant Power 60L Fibreglass Fridge with Danfoss compressor

Keeping your food and drinks cold on a trip isn't just useful – it's a must. From Aussie Batteries & Solar comes the Giant Power 60L Fibreglass Fridge that's cooled by the industry leading Danfoss compressor and features some of the most efficient polyurethane insulation on the market. It's this fibreglass lining that decreases the amount of power the fridge uses, keeping it more efficient, but one thing it also does is offer superior stain protection and won't hold odours.

WHAT IT FEATURES

- Dual compartments with individual temperature controls that allows you to customise what combination of fridge or freezer you need
- Industry leading Danfoss compressor
- Automatic 10.8 volt cut-off to protect your batteries from draining whilst the fridge is running
- Internal fibreglass construction, thick polyurethane foam insulation and stainless steel finish help to make it more efficient at trapping cold air
- Runs from 12, 24 or 240V
- Comes with protective insulation cover bag, removable fridge baskets, 12V cigarette power cable and 240V cigarette socket power adaptor
- Average current draw on 12V for the fridge at 0 degrees Celsius is 0.8amp, whilst the freezer at -15 degrees Celsius draws 2.8amp on average



The Giant Power 60L Fibreglass Portable Fridge/Freezer retails for \$1159. To buy online and to see the entire Aussie Batteries & Solar range head to www.aussiebatteries.com.au or call 1800 853 315.

NEW GENERATION DRIVING LIGHTS

From Great Whites comes the GEN2 range that promises enormous brightness and waterproofing

Night runs require the best lighting possible – in fact, you could even say that there is no such thing as 'too much light' when you're off-road after dark. From Great Whites comes the GEN2 series of LED driving lights that boast impressive toughness and astonishing brightness. There's everything from round LED and globe spotlights

to single and dual row light bars. For 4WDers, the GEN2 range turns night into day.

To find your nearest available stockist visit their website at www.greatwhites.com.au.

WHAT THEY FEATURE

- Every light in the GEN2 range comes with an impressive 5 year warranty
- 50,000+ hours of operating life thanks to energy efficient LEDs
- Each light has been shock and vibration rated to 21Grms which means they can withstand thousands of hours constantly vibrating to no ill effect
- The entire GEN2 range is waterproof rated to IP69K – the highest available protection against water and dust ingress
- The longer light bars feature the Great Whites logo illuminated for greater impact



NEW GENERATION MUD TYRES

The STT PRO from Cooper Tires offers a new tread design, a tougher carcass and 50% more protection

From Cooper Tires comes the STT PRO – a mud terrain tyre that's been extensively tested throughout some of the harshest terrains in Australia including the Kimberley. Boasting a unique 3-ply carcass construction for stronger sidewalls, a new rubber compound featuring infused silica to resist cutting and chipping, plus an ultra-aggressive tread pattern, the STT PRO is as tough as they come. The STT PROs are designed with a new 3-2 tread design that also gives them impressive on-road qualities.

The STT PRO from Cooper Tires is available at a huge number of authorised retailers. To find the one nearest to you, visit www.coopertires.com.au or phone 1300 266 737.

WHAT THEY FEATURE

- Armor-Tek³ Carcass construction that adds a third ply on an 8° angle to give the STT PRO 50% more protection against punctures to the sidewall
- Upgraded tread compound with a higher level of silica to give increased traction and resistance against cutting and chipping
- New alternating 3-2 tread design reduces the tendency for mud tyres to drift on slick tarmac
- Mud release dimples inside the tread create air pockets that work to clean your tyre as you drive
- Light truck construction makes them perfect for heavily laden 4WDs, utes and more
- Available in a huge variety of rim and tyre sizes





TOP SHELF TEAR DOWN TABLE

Take your home workshop to the next level with this Steel Engine Tear Down Table by Hare & Forbes Machinery House

Anyone who's done a lot of DIY automotive work at home can tell you the same thing – it's critical you've got the right tools. From Hare & Forbes Machinery House comes this Steel Engine Tear Down Table that makes re-building components like diffs, transmissions, engines, pumps and more a clean and organised affair. But it's not just for those huge projects – this Tear Down Table also doubles as a rolling work bench, tool cart and fluid collection pan.

The Steel Engine Tear Down Table by Hare & Forbes Machinery House retails for \$363. To buy online and to see the whole range of automotive tools head online to www.machineryhouse.com.au or phone (02) 9890 9111.

WHAT IT FEATURES

- 1220 x 710mm table area and 970mm high makes it perfect for everything from small backyard garages to the home workshop that has everything
- 136kg table capacity with a 19mm safety edge around the table
- Table groove directs all oil and fluid into a collection pan under the bench to keep your project as clean as possible
- Easily manoeuvrable thanks to two fixed and two swivel/brake castor wheels
- A fully lockable tool drawer sits underneath
- Lower shelf is adjustable

FULLY ADJUSTABLE SHOCKS

From 4WD1 comes the Rancho RS9000XL Shock Absorber that's fully customisable for your 4WD

Adding every 4WD accessory on the market certainly makes your truck capable, but it does place added stress upon your shock absorbers. That's where the Rancho RS9000XL comes in – it's fully adjustable which means you can 'dial-in' the suspension system to grow with the weight of accessories on your vehicle. And not just that – it's been completely made in the USA to withstand daily driving through mud, dirt and dust and comes with a three year/unlimited kilometre warranty.

The Rancho RS9000XL Shock Absorbers are available at 4WD1 from just \$198 per shock. To buy online head to www.4wd1.com or phone 1300 004 931.

WHAT IT FEATURES

- Patented 9-position adjustment system lets you dial in your preference for your choice of terrain, driving style and aftermarket accessories
- Constructed with a micro-polished cylinder that combined with a glass-filled Teflon seal that gives it incredible heat reduction qualities
- Click system means that you can feel by hand what setting the shock is on even if it's covered in dirt and mud
- Takes 60 seconds to adjust all four shock absorbers
- 15-stage velocity sensitive valving for enhanced traction and stability



ULTRA QUICK ROOF TOP TENT

From 4WD Supacentre comes the Adventure Kings Roof Top Tent that takes under 2 minutes to set up!

After a hard day hitting the tracks – nobody wants to spend longer than they have to setting up camp. From 4WD Supacentre comes the Adventure Kings Rooftop Tent that sets up in just 2 minutes – giving you more time to crack a cold one and relax. Made from a tough 320gsm poly cotton rip stop canvas and fully waterproofed, this roof top tent has been constructed to withstand even the wildest of weather. Not just that – thanks to the included aluminium ladder this tent is suitable for installation on almost any model of 4WD coming to a total of 2.1m high. If your truck is higher, 30cm ladder extension is also available from 4WD Supacentre.

Normally worth \$1295.00, you can score one today for way less with one of 4WD Supacentre's weekly bargains and package deals. To keep an eye out on all the latest specials and deals, head online to www.4wdsupacentre.com.au or phone 1800 88 39 64.



WHAT IT FEATURES

- Super quick to set up – under two minutes!
- Tough 320/340gsm Poly Cotton Ripstop Canvas construction gives you piece of mind in howling wind and pouring rain
- Comes standard with a high-density open cell mattress that allows air to circulate through the foam making it bone dry
- Comes included with a 2500x1400mm annex with a 550g PVC bucket floor for additional accommodation
- Traditional polyester edge binding has been replaced with durable flat fell seams ensuring no fraying and minimal risk of wicking
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[DRIVER PROFILES]

We'd love to see you and your truck! Simply send us an image of yourself and your pride and joy along with a description of why you love your fourby, and what you have done to it. Be as creative as possible! Be sure to include a little information about yourself, and where you like to go when you head off-road. Send your emails to editorial@4wdaction.com.au

TYLER'S JEEP GRAND CHEROKEE

"With our second child on the way, the time had come to part with my beloved Kingswood ute and get something more practical for our growing family", writes Tyler. "A 4WD wagon was the obvious choice. I picked up this 1998 Jeep Grand Cherokee seven seater bog stock from a lady using it to shuttle her kids around, and I never intended on doing any serious 4WDing..."

"One day I went for an explore on some of our local tracks just to see what it was capable of, and let me tell you the bug well and truly bit and I've been hooked ever since! I came away from that trip with a shopping list as big as my fuel bill and quickly set to work on modifying the Jeep."

"Being a sheet metal worker I was in the right industry to self fabricate a lot of what I need.

Since catching the bug, I have added a custom two and a half inch straight through exhaust, roof mounted spot lights, custom winch bar, and checker plate bonnet guards. Future plans for the Jeep include a custom rear bar, roof cage and a front locker."

WINNER



TIM'S 200 SERIES LANDCRUISER

You can only ever admire the blokes who spend the big bucks on a truck, and aren't afraid to take it off the blacktop. "The Cruiser is a 200 series Sahara and I bought it stock as a rock", writes Tim. "Since then I have added an ARB deluxe bull bar, ARB intensity spotlights, an under bonnet air compressor, a dual battery system, and a rear cargo barrier with a drawer system to name a few things."

Tim has also added a long range tank that is fuel and water combined, holding 55L of water and a total of 215L of fuel. Engine wise, the mighty 200 is running Pacemaker extractors and a twin two and a half inch stainless steel exhaust system.

"I'm not at all afraid to get the Cruiser out on the tracks and to go and explore this amazing country. I have set it up so my wife and I can spend weeks away in the bush.

I spend a lot of time in the S/W of W.A as that is where I grew up and know lots of hard to get isolated places down there with great fishing."





CHEYNE'S 80 SERIES CRUISER

"This is our 1HD-T factory turbo 80 Series LandCruiser", writes Cheyne, "with full bar work, a warn winch, a three inch lift and front and rear air-lockers. For the longer trips away, Cheyne has also added a Twine hot water shower under the bonnet."

"We have also just added a an Adventure Kings tent and a full length tent rack. The tent and the rack really complete the setup, it's getting close to our perfect touring setup, and it is one very capable truck! We just gave the whole setup a good test run on a 5000km trip from the South Coast of NSW, camping our way up to the Sunshine Coast, had a trip up the beach to Double Island Point before heading out west, down the Darling River Run, then out to Silverton, and Eldee Station before turning east and heading back for home. We love getting out and seeing this amazing country and can't wait to get out on the next big adventure. Next on the list are the Simpson Desert and The Cape."



SARAH'S MITSUBISHI TRITON

This is my 2013 MN Triton GLX dual cab ute", writes Sarah. "She is a 2.4L turbo diesel that I bought as a bog stock ute and I built it up over the past 18 months."

Barwork wise, Sarah has added an ARB bullbar and rear protection bar, which is held up by a two inch lift with heavy duty suspension.

"Up the back of the Triton is an ARB canopy and my home made rear drawers that I knocked up in an afternoon. I use one drawer for all the recovery gear, tools and bits 'n' pieces. The other is the kitchen/pantry. I run two 40L Engel fridges off an ArkPak and two 12v plugs in the back tray. The drawers slide on boat sliders which works a treat. To get me out of trouble, I added a Domin8r 12000lb winch and some BFGoodrich all terrain tyres."



REECE'S GREAT WALL

"This is my 2013 Great Wall V200, writes Reece, "I bought the bus about a year ago now, all stock with only 8000km on the clock for \$20,000. Since then I have slowly made it better with an opposite lock winch bullbar, which houses a cheap eBay 9500lb winch. The winch is an absolute weapon. It's pulled me out of the Tassie bogholes with no trouble. The lights on the truck are eBay specials that cost me 485 bucks. The Great Wall also has an ARB canopy that I picked up for 90 bucks at a second hand shop. It was for a Holden rodeo but it fit right on. I had it painted and a new back window put in. The V200 is a great bus and I can't fault it, Future plans are a lift kit and some muddies for it. That will finish her of I think."

ROB'S Y62 PATROL

Being no stranger to 4WDing, Rob finally took the plunge and got his hands on an absolute powerhouse of a truck, a Y62 Patrol. "After three HiLux's, a Jackaroo, two Cruisers, two Subarus a GQ and three GU Patrols I've now got a Y62 TI-L that makes 330hp at the wheels."

It's clear that Rob isn't scared to use his truck, and wasted no time setting his luxury tourer up the way he wanted. I have added a Tracklander roof rack, an ARB winch bar, a two inch suspension lift and a Tanami snorkel. Future plans for the Patrol are a Kaymar rear bar, a second 140L fuel tank and 35in tyres. Living in central QLD we often head over to the coastal playgrounds like Byfield and Eungella areas, but the big girl has been to Bamaga, down to VIC and out to Birdsville."



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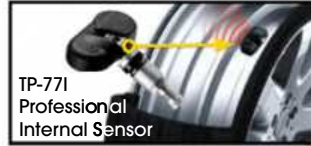
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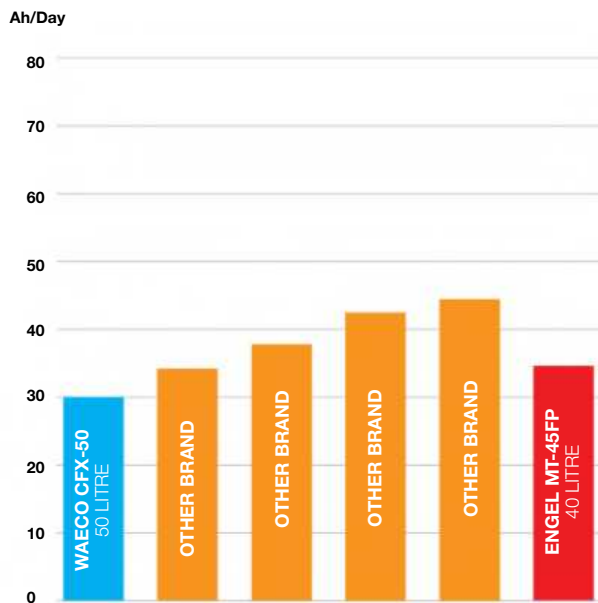
RENT A FENCE FYFD

Correction Notice

Waeco has recently published comparative advertising material which stated that the Engel 40L fridge/freezer (MT45FP) consumed power at the rate of 80 amp hours per day which was converted from a result of 956 watt hours per day published in Australian 4WD Action Issue #228.

Waeco has since been advised by Vipac Engineers and Scientists Limited, the laboratory that conducted the independent testing, that this result was incorrect, as the Engel 40L fridge/freezer only used 34.42 amp hours per day.

Waeco apologizes unreservedly for publishing the incorrect information and notes that the graph as printed in our advertising material ought to have appeared as follows:



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OOPS

MOMENTS

WINNER!
LUKE ROFFEL
VIA EMAIL

"I headed out with my three brothers and sister for a play in the mud beside a railroad track in Portland, Victoria. I was having the time of my life slopping through mud in the Cruiser when my brother reminded me of the importance of doing depth checks, but why spoil a good time, yeah? I jumped out at the first couple of puddles, grabbed a reed, and satisfied the brother that we were all good to go. I sized up the next boghole and piloted the Cruiser right into the middle. My brother thought I was crazy, and I hate to admit it but I should have checked the depth. Finally after two hours trying to get the truck out, my siblings found a local HiLux owner, Sam Wilson, who gladly snatched us from the mire.

We ended up having to replace the air conditioner idler pulley, have the CVs and wheel bearings replaced, as well as being told that the alternator was noisy, and the starter motor was on her last legs. I am beginning to wonder if depth checking may be the way to go..."



"We went out for a day trip to Mt Dissa to play around and check out some of the tracks in the area. The little Zook loved it until we got to a muddy section of the track. It was the first time the Zook had ever been stuck! Luckily we got her out safely and continued on...OOPS!"

**BRENTON
PATERSON,
VIA EMAIL**



JED CURREY,
VIA FACEBOOK

"My mate Beau, took a horrible line on some very slippery clay and laid ol' Daisy on her side after travelling up the embankment with his right front wheel and a bit of momentum. Using two winches to recover the Cruiser and a quick removal of the glowplugs, Beau and his missus Brionee got back on the tracks with some minor cosmetic damage. In Beau's words "it's all part of the fun".



RHYS OGDEN,
VIA EMAIL

"This happened on my last trip to Captains Crossing just west of Mackay in QLD. I was driving a little too fast on a dry dirt track down a creek bank and touched the brakes a little too hard, sending me sideways. We got some serious air before banging up against a tree that was stopping me from rolling over luckily."

LAURA PATERSON,
VIA EMAIL



"This happened a while back on an Easter weekend camping and 4WDing trip...This was taken after my dad reversed too far down a sand hill at redhead beach on the Central Coast of NSW. In the same trip my brother drowned his Triton ute and was dragged, winched and snatched up a hill by a 70 Series ute... Did I mention it rained?"

OUR OOPS MOMENT

How's this for an OOPS moment! Our hard working Editorial Assistant Jock went out for an arvo with a few mates to the local tracks. He took his Luxxy up a steep, rutted out hill climb that he has done a few times before, but it had been chewed up a lot since then. The washed out rock step at the top belted his tailshaft and that's all she wrote. The tailshaft twisted up and snapped like it was nothing. His winch was out of action, and he had to back down the track in front wheel drive before ripping the shaft out... miraculously his mates disappeared when the tools came out.



"This happened on a Saturday 4WDing trip with a mate out on the fire trail from Dubbo to Narromine in NSW. We saw this boghole and it didn't look too bad so I charged in and the left side of the truck sunk straight down. We got her out safely, but with some wet carpets..."

JAMES MCFARLANE,
VIA FACEBOOK



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